Louisville Metro Government

Transportation Study

June 2014

Contact Information:

308 North Evergreen Road
Suite 200
Louisville, KY 40243
502-244-6600
502-244-6296 fax
www.iqsresearch.com
www.Facebook.com/iqsresearch

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Material Accuracy

The intent of the Louisville Metro Transportation study and this subsequent report is to provide accurate and authoritative information about Downtown Louisville's workers' perceptions and uses of transportation. IQS Research makes reasonable effort to ensure that all data is collected, analyzed, and portrayed in an accurate and factual manner. However, there is no guarantee that this data is without flaws or that the use of this data will prevent differences of opinion or disputes and IQS Research bears no responsibility for its use or consequences.

Methodology

IQS Research was contracted by Louisville Metro Government to examine the transportation habits of the working population in Downtown Louisville detailing the methods they use to get to work, the factors influencing their transportation choices, and improvements that could be made to the current commuting infrastructure. All information was gathered through an online survey.

Louisville Metro Government led the data collection, distributing the survey invitation and link to employers located in the downtown Louisville area. Due to the method of survey distribution, it is important to note that the sample collected does not meet the definition for being random and thus the following results may not represent the population as a whole and are to be considered as a judgment sample only.

The survey data collection period lasted from May 5th, 2014, to May 23rd, 2014. During this time IQS Research received a total of 1,446 responses. Since this study was designed to focus on the transportation habits of the downtown working population, 484 of these responses, or around 34% of the total responses received, were not included in the analysis. To be included in the survey population respondents had to indicate that they worked in either the 40202 or 40203 zip codes. Some respondents either cited working outside the downtown area or would not disclose the information and they were subsequently removed. Responses retained counted 962, leading to a net response rate of 1.5% for the approximate 65,000 downtown working population. If these data could be extrapolated to the general population, they would have a margin of error of ±3.14% at a confidence level of 95%.

IQS designed the survey which asked participants about their transportation habits concerning TARC public transportation, bicycling, and walking. The first section of the survey asked questions concerning the modes of transportation that a respondent typically used on different types of trips. Next, individual sections were provided for TARC, bicycling, and walking. Each section asked questions about the utilization frequency of the given mode, aspects of the mode they value and do not value, improvements that the respondent believes could be made to the mode, and finally the importance, safety, and direction of that mode's development. Respondents were shown unique questions based on specific answers they provided, all done automatically as part of the survey program. The maximum questions a participant could answer were 42, while the minimum was 37.

Transportation Overview

To begin creating our understanding of the transportation choices of the population working in Downtown Louisville, we find that an overwhelming majority, 85.7% of the sampled population, drive to work when the weather is nice. Furthermore, only 11.6% of the population indicated that weather has an impact on their transportation choices. We also found that approximately half (53.8%) of the driving population do not personally incur monthly parking costs, the largest number of respondents who made up this group were employees of Jefferson County Technical College and Louisville Metro Government with the University of Louisville, Stock Yards Bank & Co and Brown-Forman coming next, albeit significantly lower. For most of these individuals, their employer either provided parking or paid for the parking. The remaining 46.2% of the surveyed population pay an average of $56.32 in monthly parking expenses.

When the weather is nice, which mode of transportation do you use?			
Drove Alone	753	78.3%	85.7%
Rode with Family/Friends	71	7.4%	
TARC	91	9.5%	
Vanpool	0	0.0%	
Bicycle	33	3.4%	
Walked	13	1.4%	
Taxi	0	0.0%	
Telecommute	1	0.1%	
Total	962	100.0%	

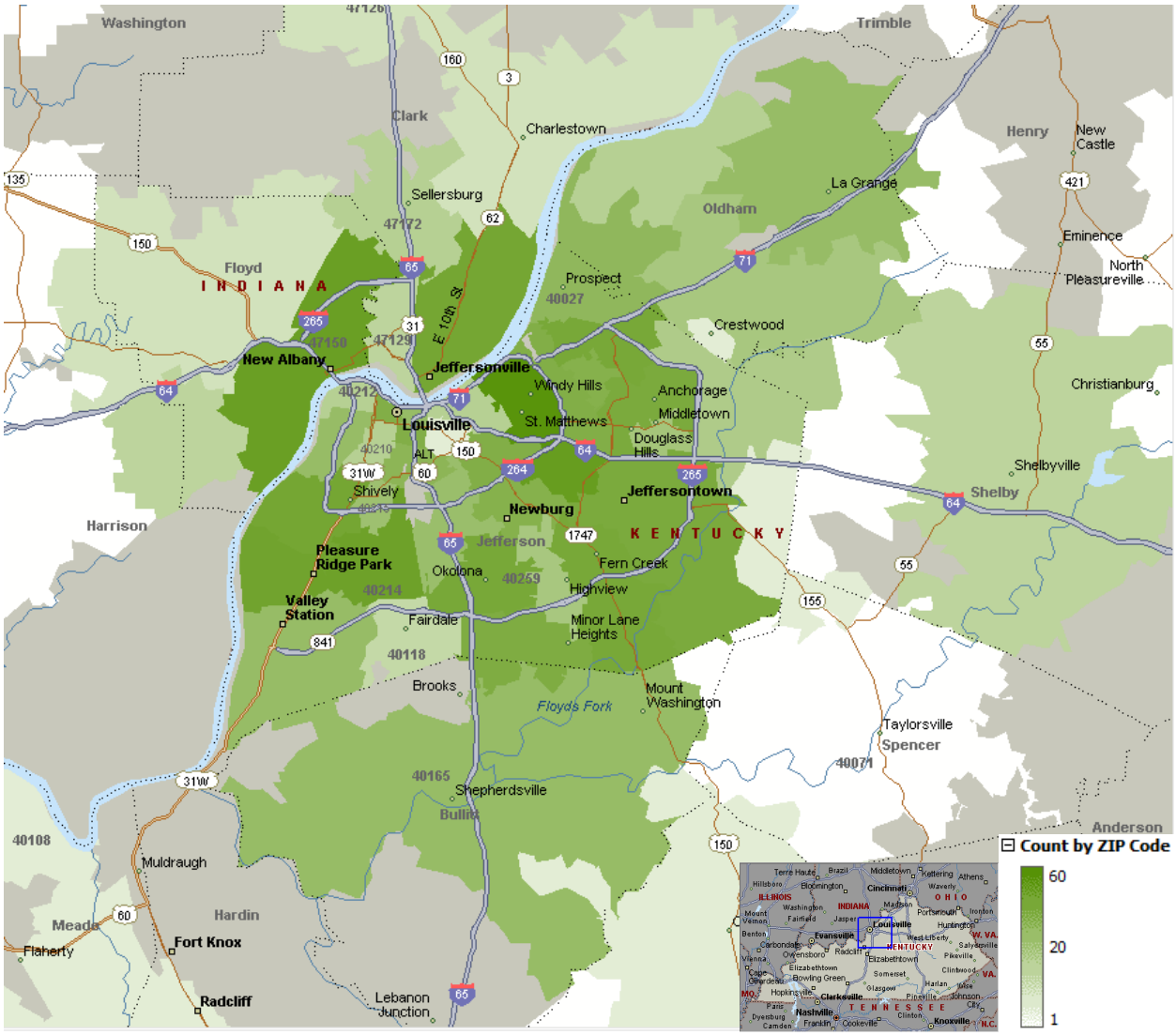
Does your primary mode of transportation change based on weather?		
Yes	111	11.6%
No	848	88.4%
Total	959	100.0%

An overwhelming number of the participants were employed full time (93.8%) and worked during standard business hours (93.8%), an expected result considering the survey was only open to workers in Downtown Louisville, in which employment is primarily full time in standard 8/9a.m.-5p.m. hours. It is also important to note that the surveyed population had a much higher average income than the average Louisvillian, as 45.0% of the respondents had a household income of over $75,000.

Annual household income		
Less than 25,000	48	5.4%
25,000-35000	115	12.9%
35,001-50,000	154	17.2%
50,001-75,000	175	19.6%
75,000+	402	45.0%

While we wouldn't classify the downtown working population as dispersed, we would like to point out that a good portion of the respondents do live somewhat far away from the workplace with 50.4% of the respondents commuting over 10 miles to work one way. As we will see, distance from downtown does have an impact on the transportation choices of people in all three of the key areas tested in this survey.

How many miles do you commute to work (one way)?			
Don't commute	4	0.4%	
1-5 miles	225	23.5%	49.2%
6-10 miles	246	25.7%	
11-15 miles	208	21.7%	50.4%
16-20 miles	124	12.9%	
21-25 miles	65	6.8%	
26+ miles	86	9.0%	

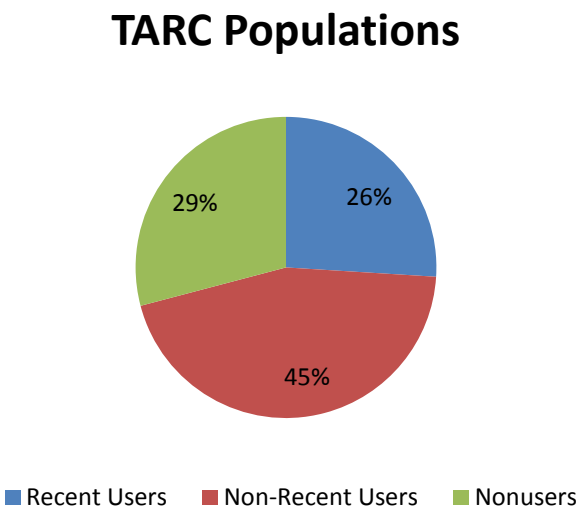


As indicated by the distribution map above, the respondents of the survey commute from a variety of areas surrounding Downtown Louisville, with the darkest regions containing the highest number of people that work in the downtown area.

To continue the study of the transportation habits of those who work in Downtown Louisville, we will progress to discuss about TARC, bicycling, and walking individually, and the unique factors that sway the population's perceptions and opinions about each mode of transportation. Furthermore, we will see different groups of the population form in each mode and evaluate the differences in opinion that these groups tend to hold. Next, we will evaluate the state of each method as it stood at the time of the survey and take a look at the opinions of the direction of development for alternative methods of transportation to driving. Finally, we will discuss the socioeconomic factors that have an impact on transportation choices that the workers of Downtown Louisville make.

TARC Public Transportation

Of those surveyed, 70.9% have had some experience with riding a TARC bus, indicating that a significant portion of the workers surveyed have been exposed to TARC. However, for 45 % of the surveyed population, the last experience on a TARC bus has not been within the last year, resulting in approximately a quarter of the population that remains as people who have used the system recently. After seeing these results, we have divided the population into three categories: Recent Users, Non Recent Users, and Nonusers.



Recent Users: The participants that had ridden TARC in the past year are classified as Recent Users, and respondents in this category tend to have fewer children, less income, and are less likely to be married or partnered than participants in the other two categories. Another important note is that participants in this category had significantly higher numbers of minorities, most notably in people of Asian and African American descent. Like the number of participants, these consisted of a vast majority of full time workers working standard business hours, but did have higher than normal numbers of students in their population. As a general rule, this group of people had a significantly smaller distance to travel than their counterparts.

Non-Recent Users: People who have ridden TARC before but haven't ridden the system in over a year are considered Non-Recent Users. Typically Non-Recent Users have children and are married more frequently than Recent Users, but are essentially identical to Nonusers in these demographics. Non-Recent Users were in the middle of the road in income, slightly less minority-dense than Recent Users (although still containing a higher amount of African Americans than the general sample) and were generally older than those in the other two categories. The commuting distance for this group was further than the Recent Users, but 70.9% still lived within 15 miles from Downtown.

Nonusers: The participants classified as Nonusers have not ridden the TARC system at all, and are relatively young with 63.1% of them being under 45 years of age, and had similar marital and children statuses to Non-Recent Users. Nonusers had significantly higher levels of Caucasian participants than the other two categories. Nonusers also were significantly more affluent; 52.6% had household income levels higher than $75,000.

Demographics			
Age	Recent	Non-Recent	Nonusers
18-24	5.2%	2.6%	4.7%
25-34	20.1%	17.4%	30.1%
35-44	18.9%	20.5%	28.3%
45-54	25.3%	28.1%	19.4%
55-64	26.1%	27.0%	12.5%
65+	4.4%	4.4%	5.0%
Race	Recent	Non-Recent	Nonusers
American Indian/Native	0.0%	1.9%	0.4%
Asian	3.2%	0.0%	1.8%
Black/African American	15.0%	10.8%	3.3%
Caucasian	78.1%	84.5%	91.5%
Hispanic/Latino	0.4%	0.9%	2.2%
Hawaiian/Pacific Islander	0.0%	0.2%	0.0%
Other	3.2%	1.6%	0.7%
Marital Status	Recent	Non-Recent	Nonusers
Married/Partnered	51.8%	66.5%	69.2%
Single	48.2%	33.5%	30.8%
Living With Children	Recent	Non-Recent	Nonusers
Yes	23.5%	34.4%	36.3%
No	76.5%	65.6%	63.7%
Household Income	Recent	Non-Recent	Nonusers
Less than 25,000	9.6%	3.5%	4.5%
25,000-35000	17.0%	12.5%	9.8%
35,001-50,000	20.5%	15.8%	16.5%
50,001-75,000	19.2%	21.8%	16.5%
75,000+	33.6%	46.4%	52.6%
Commute Distance	Recent	Non-Recent	Nonusers
Don't commute	0.8%	0.0%	0.7%
1-5 miles	39.1%	20.5%	14.3%
6-10 miles	29.8%	24.4%	23.9%
11-15 miles	12.5%	26.0%	23.2%
16-20 miles	9.3%	13.7%	15.0%
21-25 miles	4.4%	7.4%	7.9%
26+ miles	4.0%	7.9%	15.0%

Ages with >20% of group

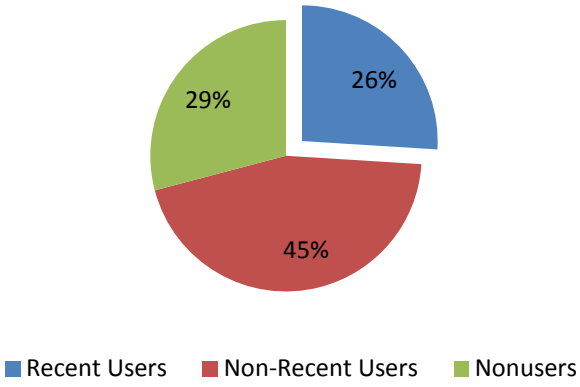
Racial Trend in classifications

Incomes with >20% of group

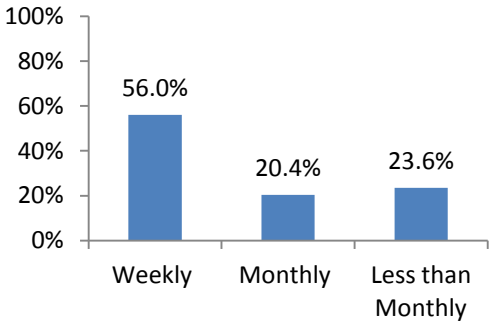
Distances with >20% of group

Recent Users

TARC Populations

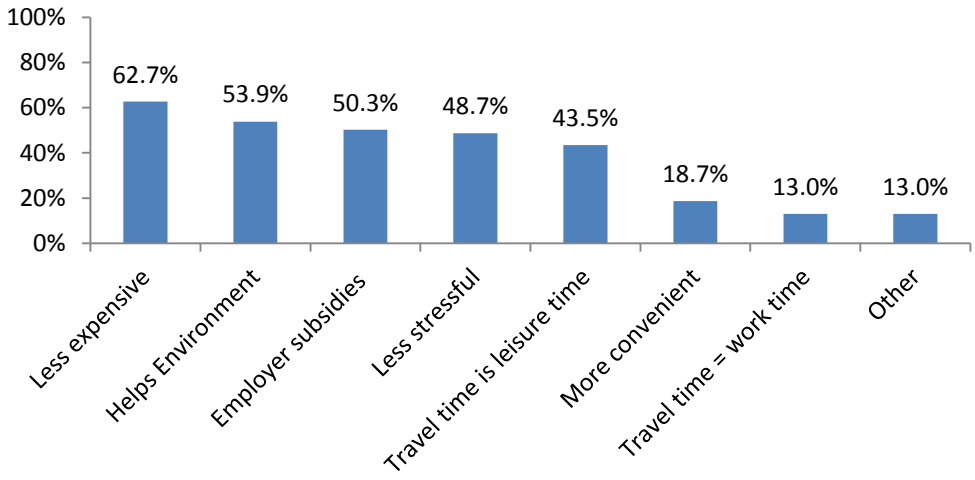


Frequency of Usage

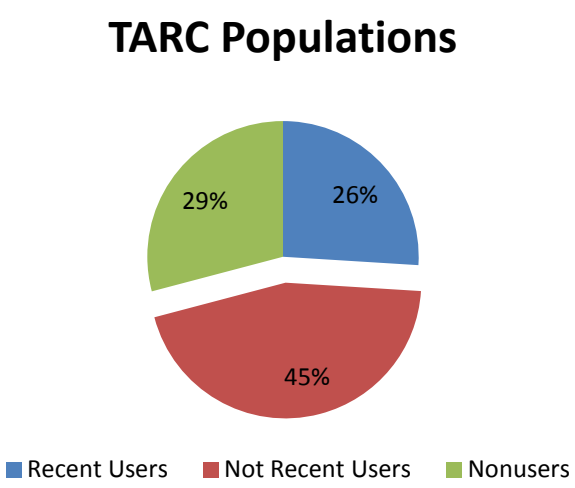


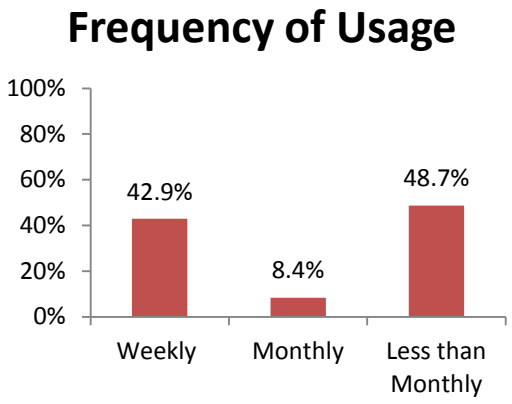
When we look at the riding frequency trends inside the Recent Users classification, we see that over half (56.0%) of the group is riding the bus on a weekly basis, giving the system a solid, recurring usage base. Recent Users depend on the TARC system for a significant portion of their transportation, and cite that the highest benefits of the system for them are its cost efficiency, environmental benefits, and the reduction of stress that it has on their lives.

Benefits to Riding TARC



Non-Recent Users

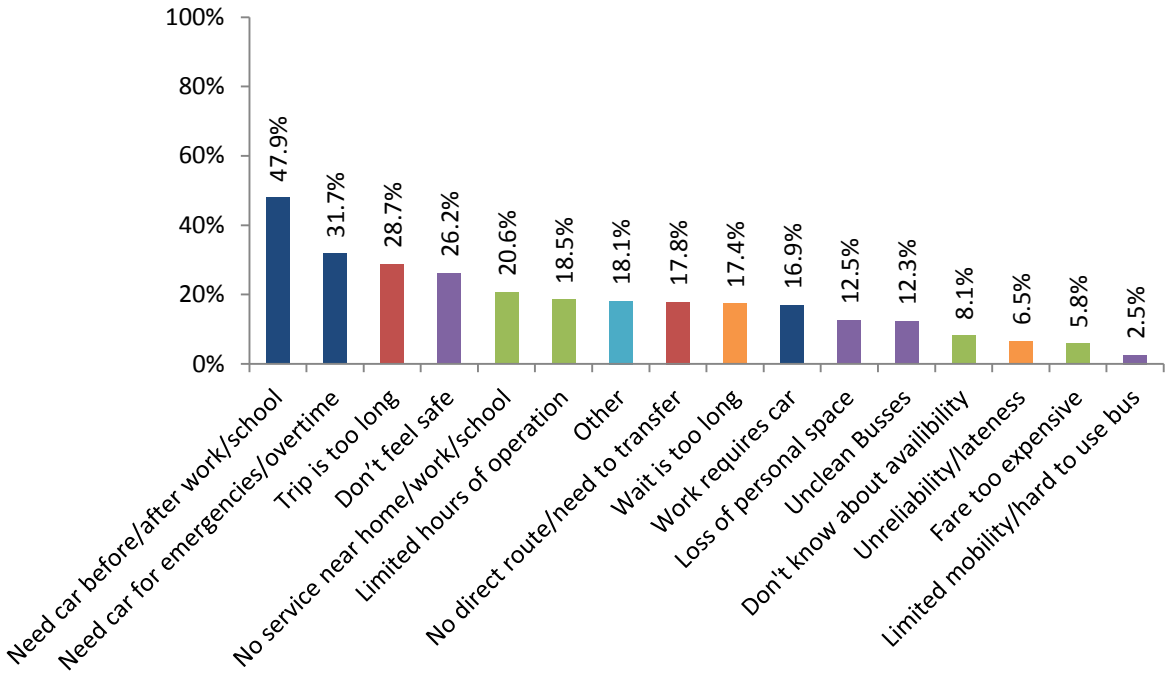




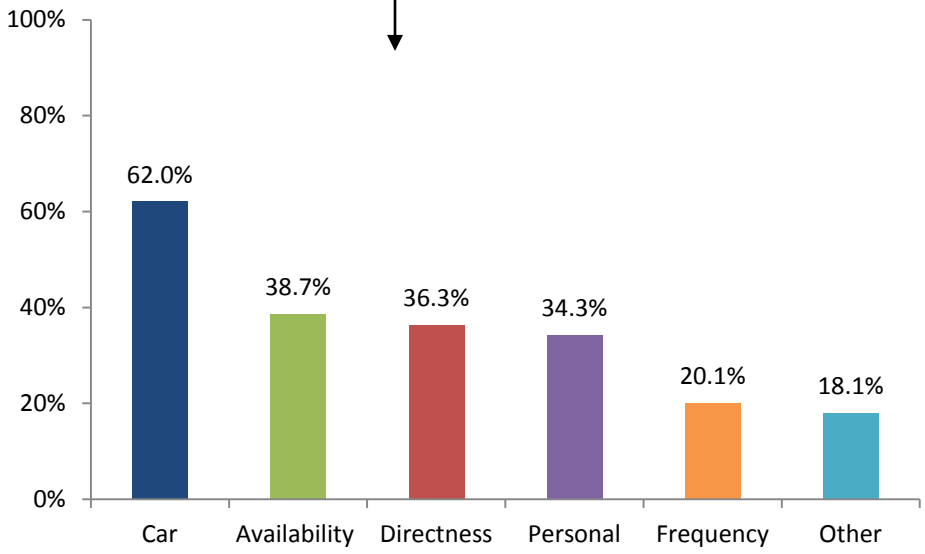
Respondents in the Non-Recent User category make up 45% of the surveyed population, the biggest of any classification of the TARC population. When we look at their historical usage patterns we find that they used to ride TARC regularly. Specifically, 42.9% of this group indicated using the system weekly when they were using it. This indicates that a sizeable portion of the Downtown working population were once loyal users but since have been estranged from the TARC system.

Non-Recent Users cite many different reasons as to why they no longer ride TARC. The primary reason being the need for cars is demonstrated on the next page. When combined, 62.0% of Non-Recent Users don't use the TARC system because respondents indicate needing their cars either before, during, or after work, or in case of an emergency or unexpected overtime. A little over one quarter of Non-Recent Users do not ride TARC more frequently because they do not feel safe. When further analysis was conducted, it revealed no noteworthy differences in the demographic information of those who did not feel safe, leading us to conclude that this feeling is not necessarily dependent on the asked demographic factors. Another top reason this group doesn't use the TARC transportation system is because of the trip length, which coincides with the demographic findings above that the average Non-Recent User tends to live further out than Recent Users. Although there were many different obstacles cited for riding TARC, we found that these most of these reasons could either be grouped into categories relating to the need for cars, personal reasons, or the availability/directness/frequency of the routes. Of these "buckets," the need for cars was the most common by a significant margin with availability, directness, and personal reasons all following.

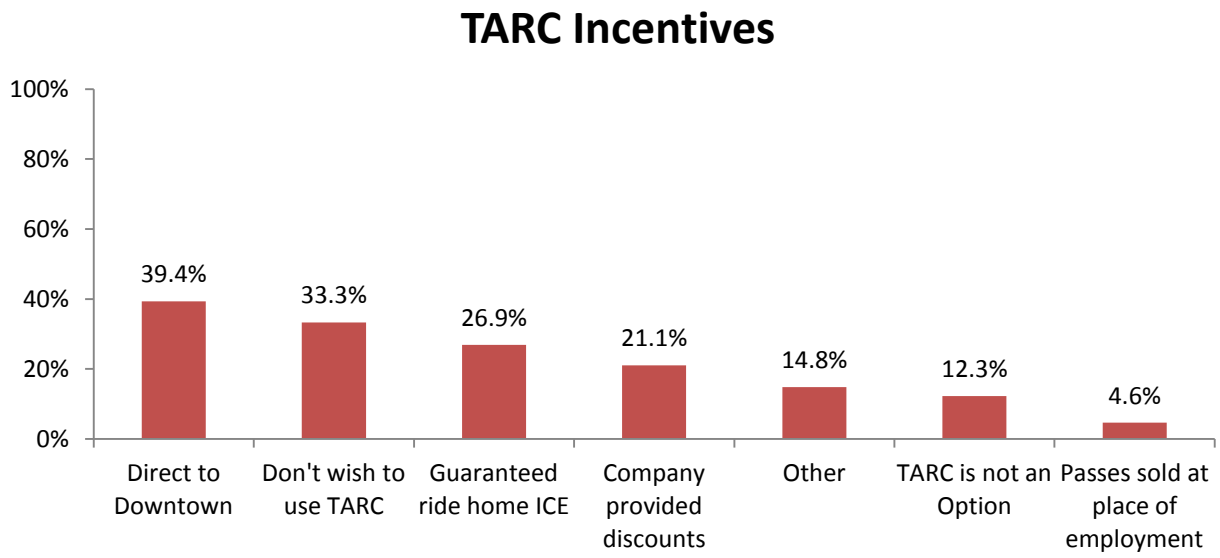
Obstacles to Riding TARC



Combining the options into problems related to cars, availability, directness, personal issues, frequency, and other problems we get the following chart

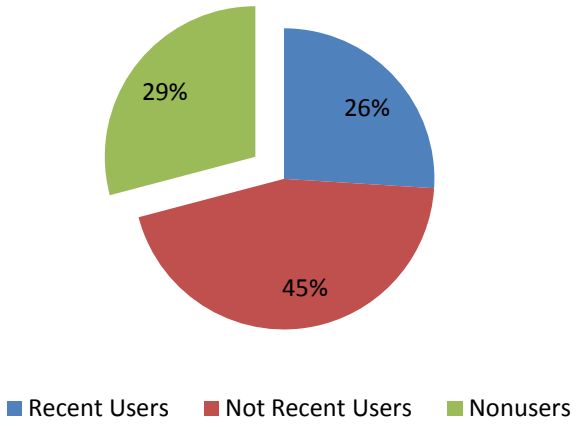


When asked about what would encourage them to ride the TARC system more often, 39.4% of Non-Recent Users claimed that a shorter commute time or an option for a direct to Downtown route would do so. One third of Non-Recent Users do not wish to ride TARC at all, along with 12.3% stating that TARC is not a valid option for them because of where they live, suggesting that users with these responses may be lost to the TARC system for good. Interestingly, only 5.8% of Non-Recent Users stated that they didn't ride TARC because of the cost of the fares, but 21.1% stated that if they were to receive discounts from their employer they would be encouraged to begin riding once again.



Also high on the list of useful incentives was a guaranteed ride home in case of an emergency, which coincides with the second most popular obstacle to riding TARC for this group. Offering the guarantee that a rider will get home whenever there is an outstanding circumstance would entice approximately 26.9% of this group to ride TARC.

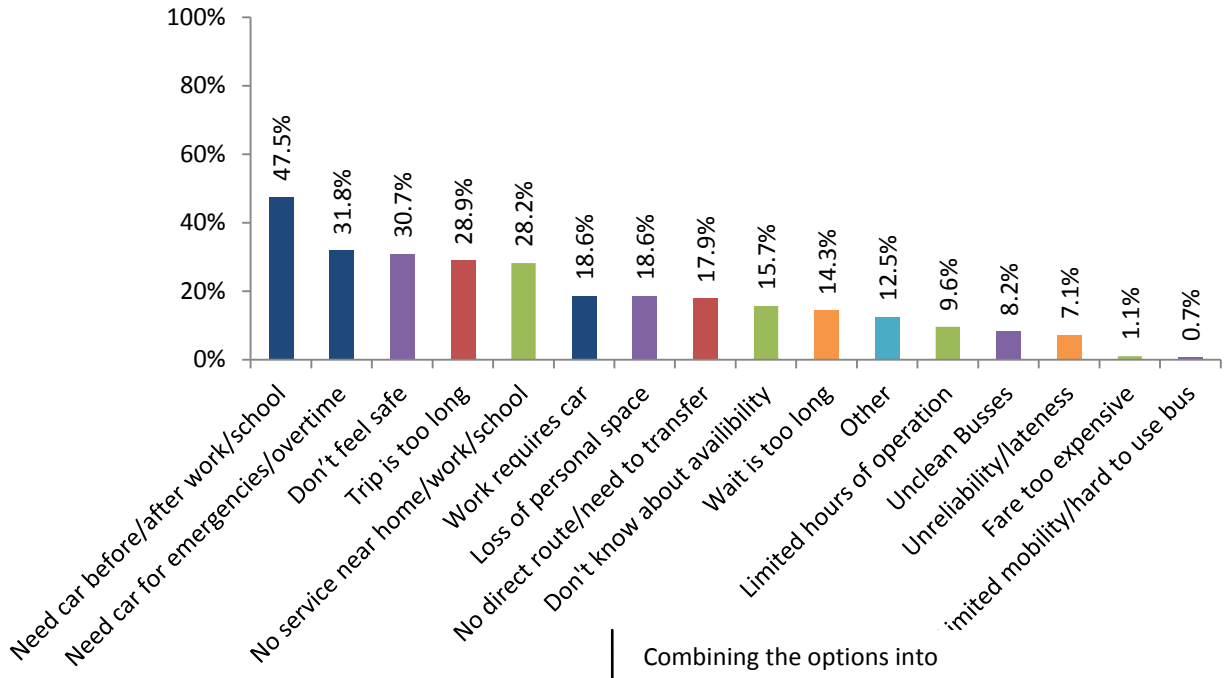
Nonusers



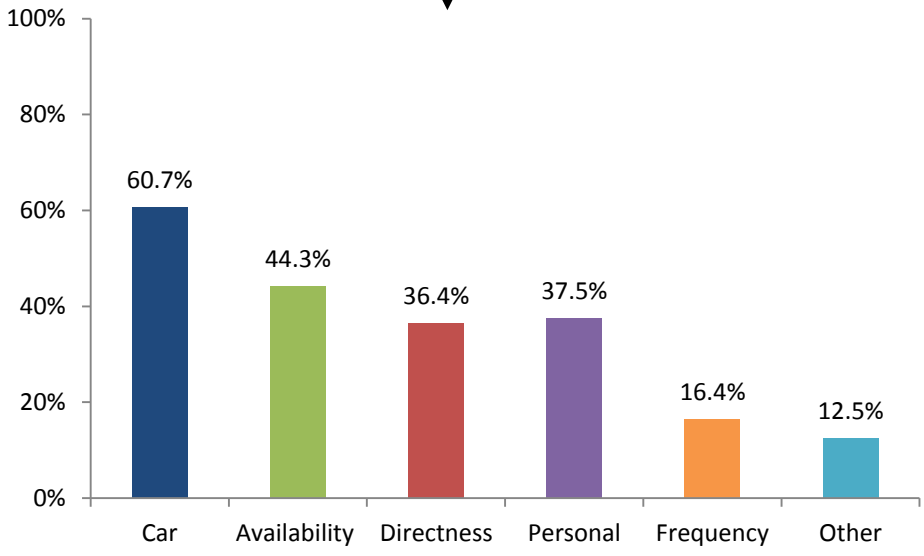
Of the surveyed population, 29% have never ridden on the TARC system, making up a significant portion of the Downtown working population who has had no exposure to the public transportation in Louisville. Similar to the Non-Recent Users, this classification indicated many car-related obstacles in taking public transportation – in total this concerned 60.7% of this group. This classification also is more concerned with safety than any other, with 30.7% saying they don't ride TARC because of safety concerns; the second highest concern after car related problems.

When we compare the obstacles that the Nonusers indicate with riding TARC with those indicated by the Non-Recent Users, we see that while similar numbers indicating needing their car for various reasons. However, 44.3% of Nonusers do not ride TARC because of availability obstacles, an increase from 38.7% of Non-Recent Users. We also see a slight increase in personal reasons; four percentage points more of Nonusers do not use TARC because of personal reasons when compared to Non-Recent Users.

Obstacles to TARC

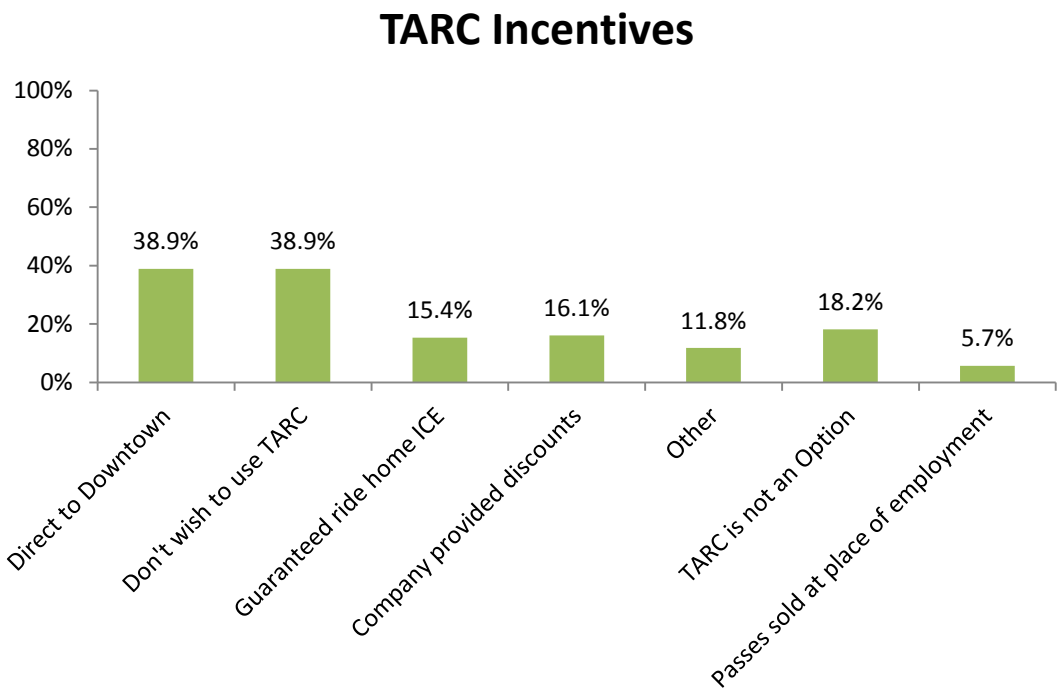


Combining the options into problems related to cars, availability, directness, personal issues, frequency, and other problems we get the following chart



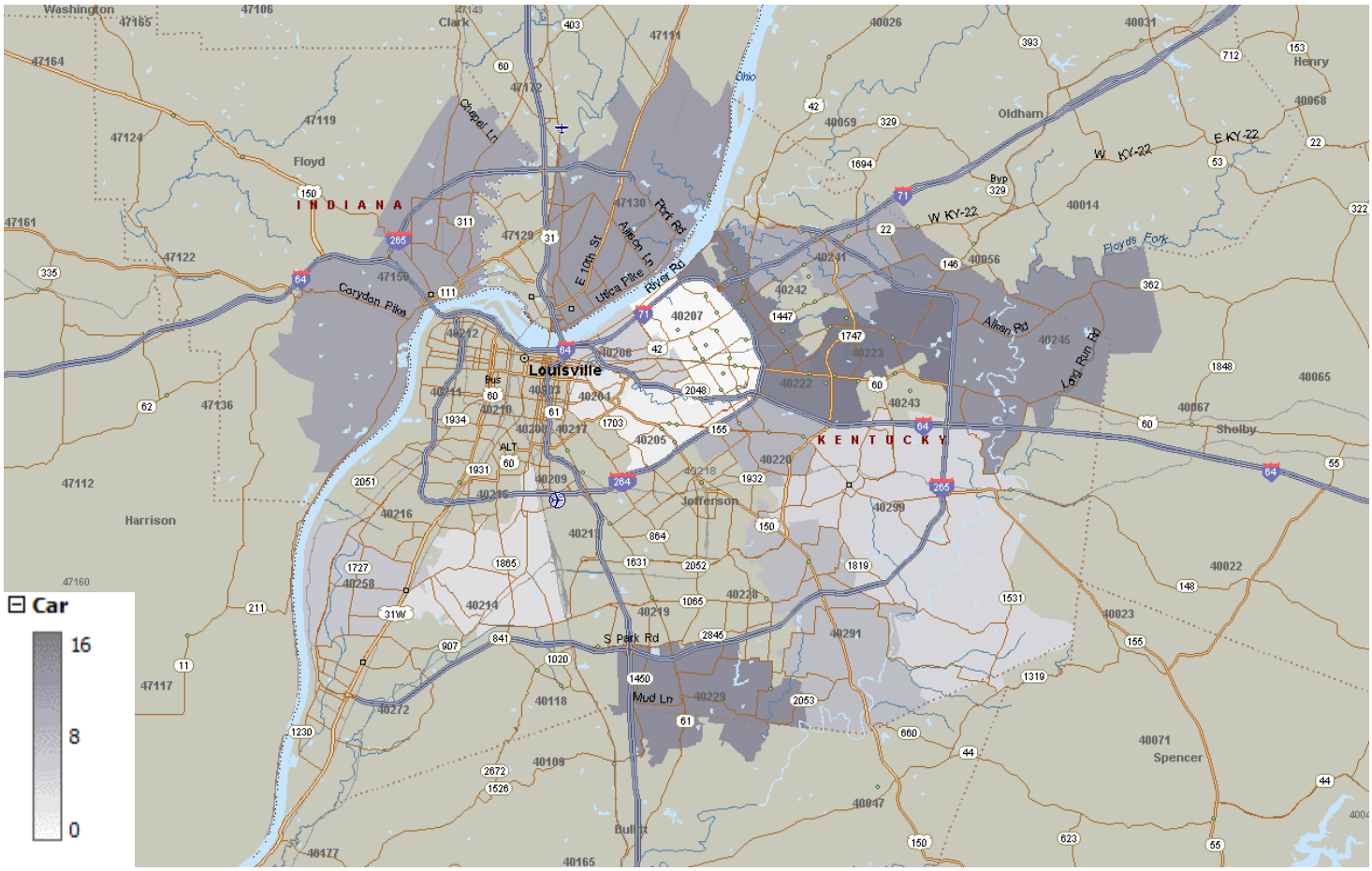
This classification does have some significant differences from Non-Recent Users of the TARC system, most notably in the number of people who do not wish to use TARC or who state that TARC is not a valid option for them based on the location of their homes. These combined numbers are 12 percentage points higher than the previous category, showing this group's resistance to joining the TARC system either by choice or by geographic location.

Some 38.9% of nonusers state that a direct route to downtown would incentivize them to start riding the system, an identical percentage to the Non-Recent Users category. The significantly lower percentages of answers in the other categories when compared to the Non-Recent User category suggest that these incentives would be less effective ways of getting Nonusers to ride the bus. However, because of the high numbers of those who are resistant to joining the TARC system, it seems that the majority of respondents in this category are not very open to beginning to ride TARC. For those who are Nonusers and seem open to riding TARC, they appear to desire the same incentives as convertible Non-Recent Users.

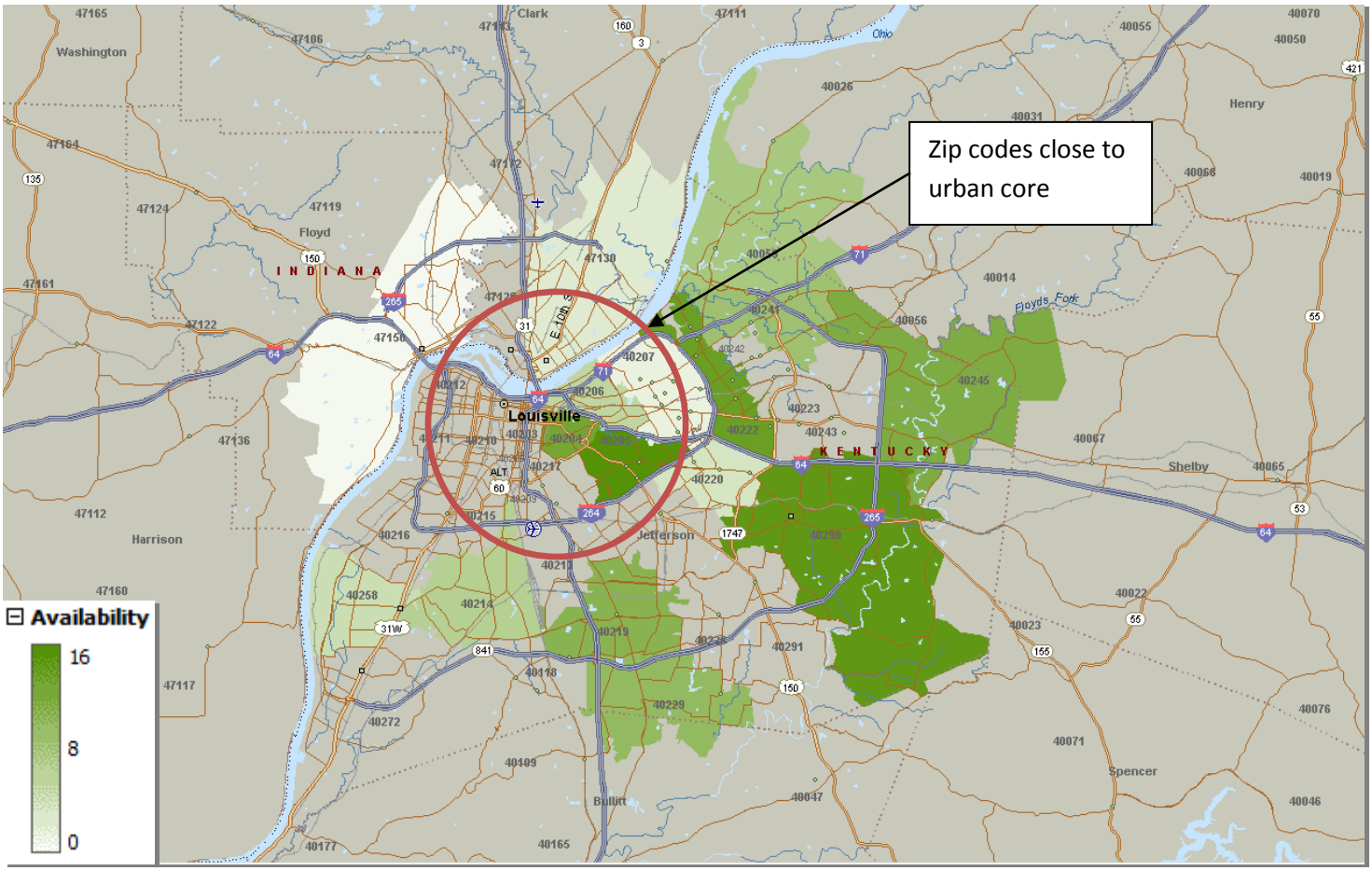


TARC Obstacle Distribution

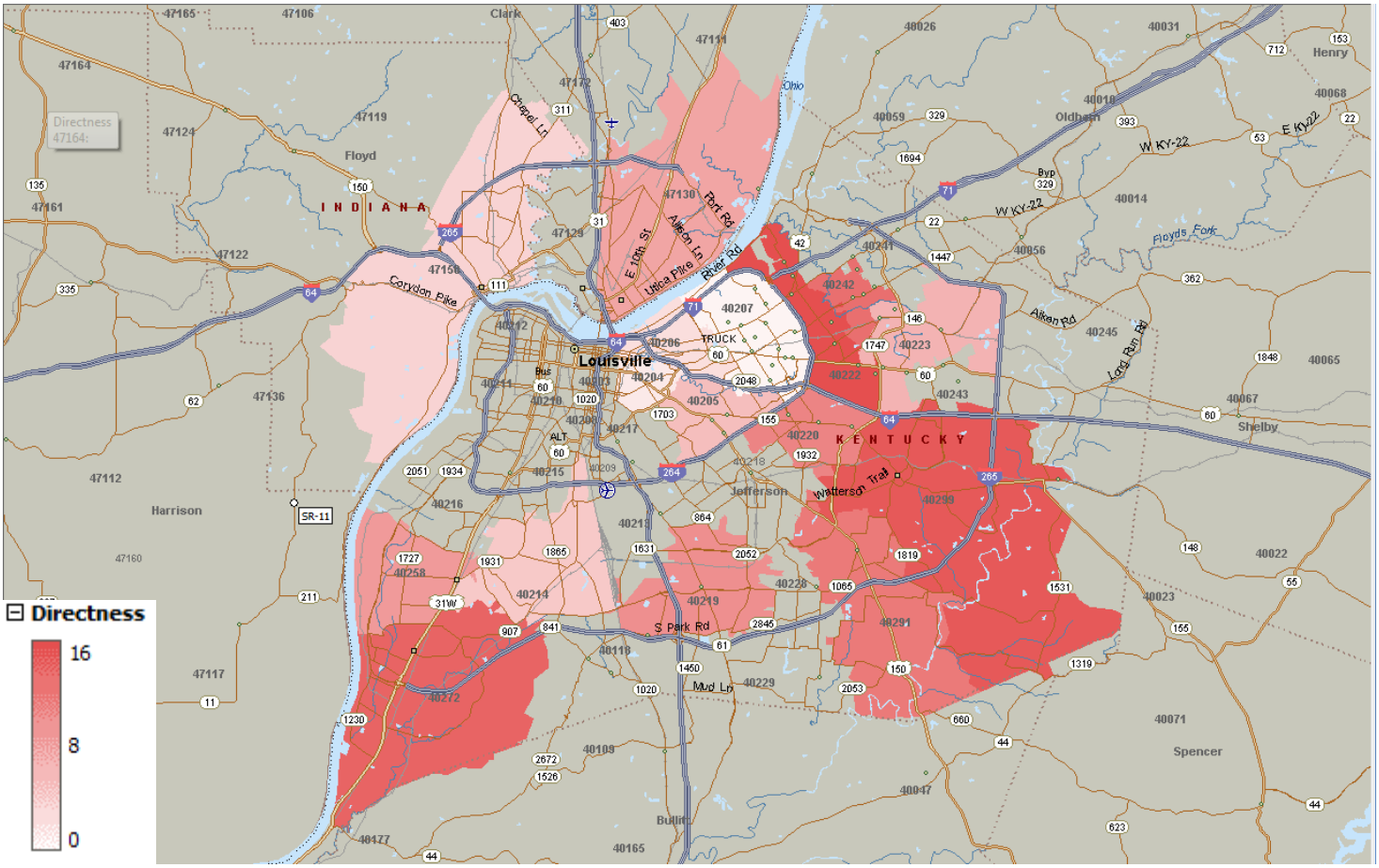
The following maps show the respondents' zip code distribution in relation to the obstacles that keep them from riding TARC more often or riding at all. These distributions show the concentration of Non-Recent Users and Nonusers collectively that live within the identified zip code and checked the box pertaining to the indicated category. Thus, these distributions are dependent on the distribution of these classifications of users but demonstrate regions with many users who cite a particular obstacle as being the reason they currently don't use the TARC system more often.



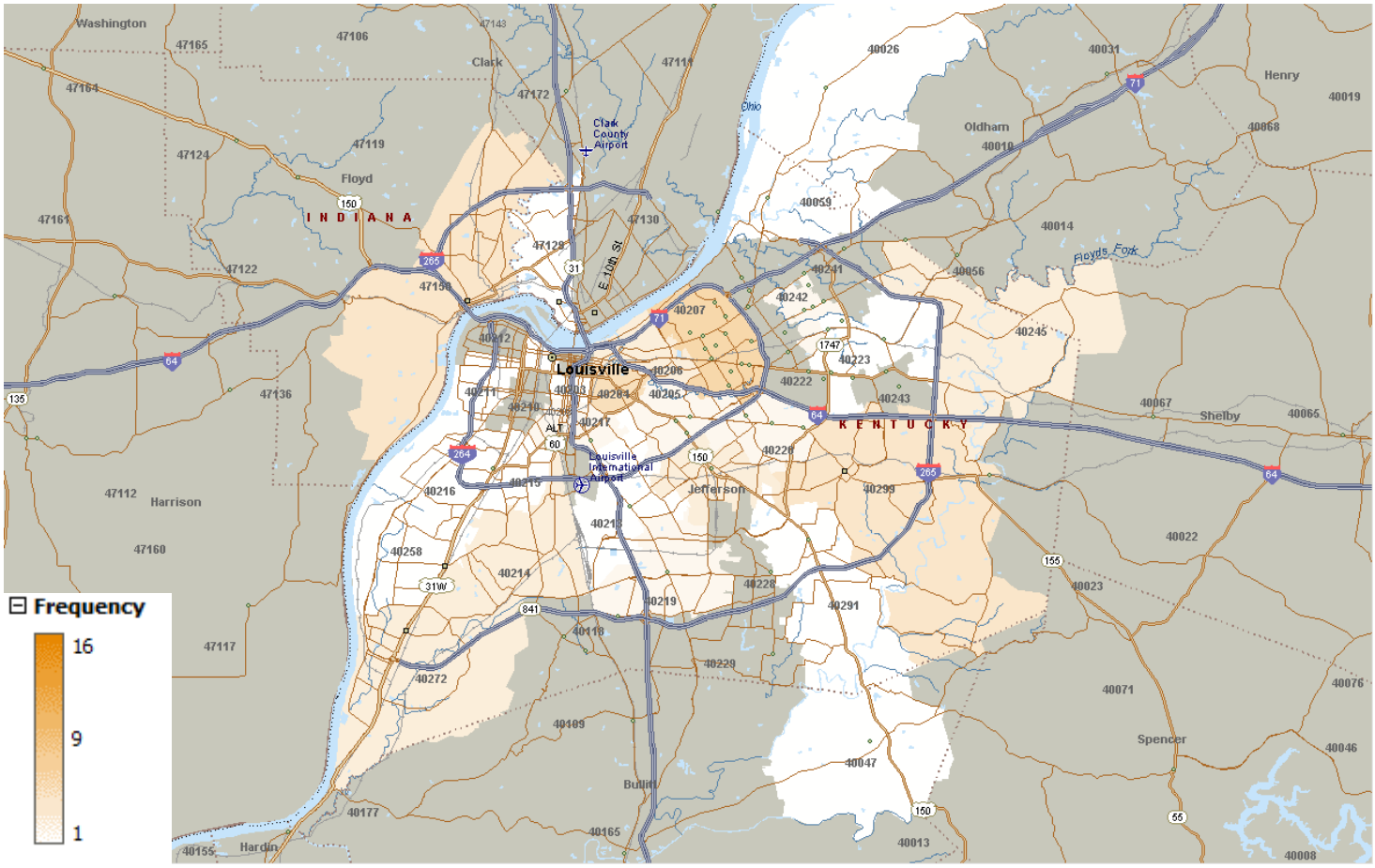
The map above shows the distribution of respondents from the Non-Recent User and Nonuser categories who cited car-related issues when explaining why they either don't ride the TARC often or at all. As we recall from the earlier analysis, this was the most common obstacle to riding TARC amongst the respondents. While geographic location doesn't necessarily play a factor in deciding if you'll need a car during the workday or for potential emergencies, we do see that the majority of the respondents in this category do live either in the Eastern part of the County, South of Interstate 264 or North of the Ohio River in Indiana. This group tended to have a lengthier distance to travel than the general population of the survey, which is indicated by the map above. They also tended to be of higher income, lower activity levels, and more likely to have children under the age of 18 living with them.



The above map shows the number of survey respondents that labeled problems related to TARC availability as the obstacle to them becoming more frequent users, and was rated as the second-highest obstacle to the survey population riding TARC. The number of residents living inside the 40204 and 40205 zip codes that have these issues is somewhat surprising, considering their proximity to downtown Louisville. Also noteworthy is the heavy density in zip code 40299. Significant demographic factors of these groups when compared to that of the sampled population include a higher likelihood of being married, higher than normal income, and as the map would indicate, a further distance away from Downtown Louisville.



When we examine the distribution of respondents who indicated concerns with directness in the TARC system, we see that the East and Southeast ends of Louisville are primarily the locations that voice these concerns. Directness was the third highest obstacle to people using TARC more frequently and these concerns seem to grow the further away from downtown one resides. This group also tended to be more female, less likely to have children living at home, and of slightly higher income than the average respondent of the survey.



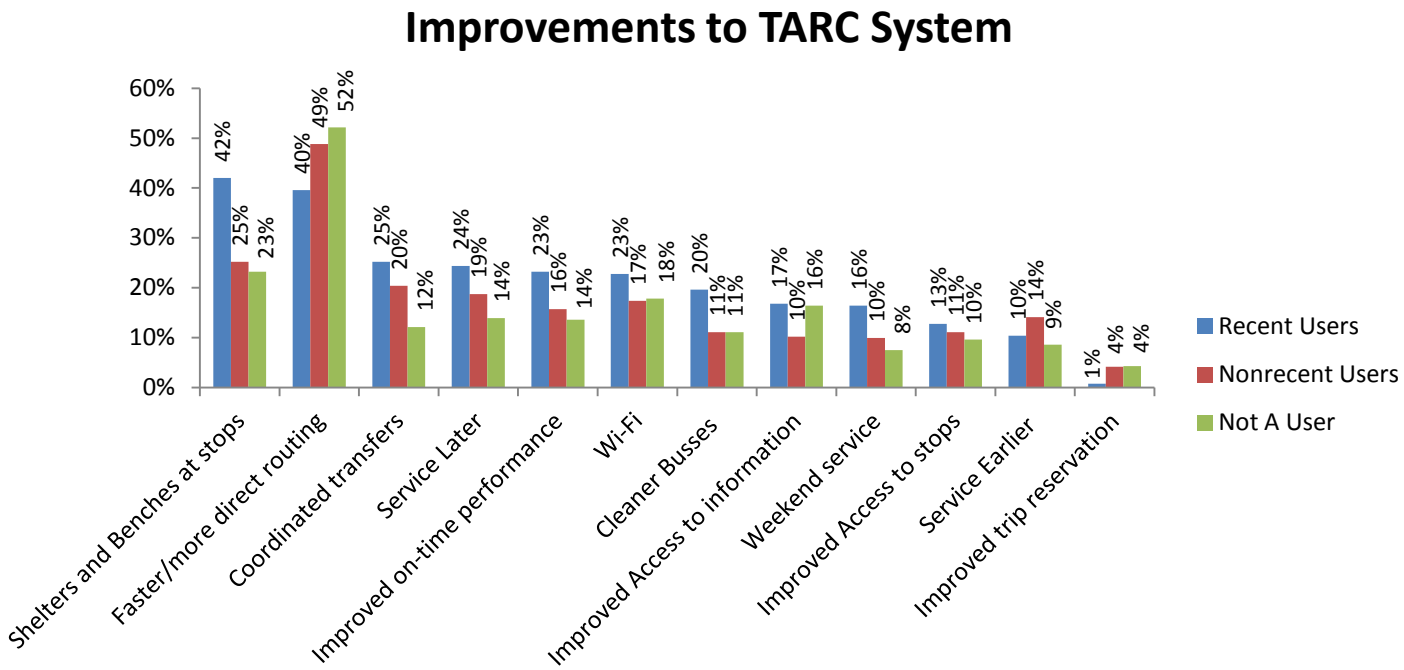
Of the respondents who were concerned about the frequency of TARC transportation, there was not one particular geographic location that demonstrated these concerns most frequently. Of the other obstacles to riding TARC, this obstacle was the least common reason given by a respondent for not riding TARC. This group tends to be less physically active, more concentrated in the middle age bands (25-45 range), more likely to be single and without children, of lower household income, and distributed slightly further away from downtown than the general survey sample.

TARC Improvements and Evaluations

As a whole, when the suggested improvements to TARC are examined they seem to follow a relatively consistent pattern across the different TARC populations with different groups having similar responses to the suggested improvements they were given in the online survey. However, the most popular two responses do have some discord amongst the populations. Some 42% of Recent Users responded that having shelters and benches at the current bus stops would be an improvement to the bus system, while this was only a concern for approximately one quarter of the Non-Recent Users and Nonusers. This difference in responses coincides with the analysis earlier in the section. This could be because the lack of benches and shelters at the stops is a problem that frequent TARC users experience every day and is not a concern for those who do not use the system frequently or at all.

For the Non-Recent and Nonuser populations, the most popular improvement to the public transportation system is the implementation of faster and more direct routing. Some 48% of Non-Recent Users and 52% of Nonusers stated that this would be an improvement to the TARC system, which was much higher than any of their response rates for the rest of the options in this question. It would seem for these groups the biggest problem with TARC is the amount of time it takes for them to use it, which would coincide with these two populations being located further from downtown than the Recent Users.

It is also important to note that Recent Users agreed with the other two populations that faster or more direct routing would be an improvement to the current system, as it was the group's second most popular answer with a response of 40%.



When asked about the importance of public transportation to Louisville's future, respondents tended to indicate high importance ratings regardless of which group they aligned with. However, it is important to note that the group did have some impact on the respondents' views of TARC importance; 91% of Recent Users gave it either a 4 or 5, compared to 69% for the Nonuser category. While the number of high scores are important to look at, it's also noteworthy to point out the lack of low scores (1 or 2) any category held, signifying that very few respondents find TARC is not important to the future of Louisville.

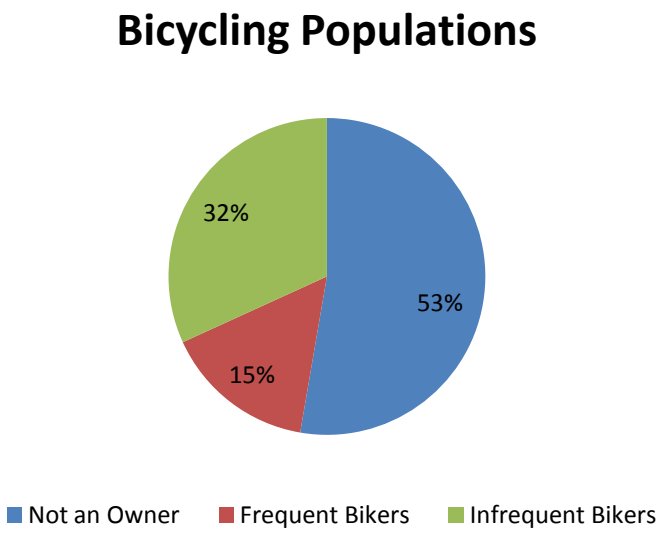
Importance to Louisville's Future	Recent	Non-Recent	Nonuser
1	0.8%	1.2%	3.2%
2	1.2%	1.9%	3.9%
3	6.4%	18.1%	24.0%
4	20.5%	24.5%	24.7%
5	71.1%	54.4%	44.1%
Average	4.6	4.3	4.0

When asked whether Louisville is headed in the right direction for creating an effective public transportation, the respondents once again had very similar answers regardless of classification, all of them giving an average score of approximately 3 on the five point scale. This score should not be interpreted as a generally OK score – the lack of people actively stating that Louisville is headed in the correct direction for public transportation is somewhat concerning. Furthermore, only one third of Recent Users indicated this score. Around 25% of every group is selecting a 1 or 2, essentially saying that Louisville is going in the *wrong* direction with the development of its public transportation.

Public Transportation Headed in Correct Direction	Recent	Non-Recent	Nonuser
1	7.3%	11.1%	9.7%
2	18.5%	19.7%	13.3%
3	41.9%	41.3%	52.0%
4	16.5%	17.2%	16.5%
5	15.7%	10.7%	7.9%
Average	3.2	3.0	3.0

Bicycling

Of the surveyed population, 48% had owned or had access to a working bicycle and 15% used their bicycles for trips more than once a month, creating a natural dichotomy of the sample based upon their bicycle access and usage. Since only one in two people have access to a working bicycle, it is important to notice the differences in responses and perceptions about the bicycling infrastructure in Louisville from those who bike frequently, those who own bikes but don't bike frequently, and those who don't own bikes at all. These groups' relative sizes are shown below. The following section describes each group and the differences they show among select demographics



Frequent Bikers: Frequent Bikers not only own a bike, but use it more than once a month for different trips, either while commuting to work or riding around town for different errands. As might be expected, this classification is not only more active than the general sample but significantly more active than the other two categories of bike owners. They also are significantly more male and are more likely to be Caucasian than the other categories. Frequent Bikers are less likely to be married than Infrequent Bikers and more likely than people who didn't own bikes. Frequent Bikers also have fewer children than Infrequent Bikers, but more children than those who don't have bikes. Frequent Bikers are also significantly affluent, with over 50% earning over $75,000 annually and live fairly close to downtown; 72% live within 10 miles.

Infrequent Bikers: Infrequent Bikers are members of the population who own bikes, but ride them once a month or less. Infrequent Bikers are similar to the general sample in activity level, only slightly more male, and more likely to be Caucasian. Compared to Frequent Bikers, they are more likely to be married or partnered and also to have children at home, and had the highest average income of the three categories as more than 51% earned over $75,000 a year. There were significantly fewer Infrequent Bikers who lived within five miles of downtown when compared to Frequent Bikers, but still 51% lived with 15 miles, making them closer than the average respondent.

Not an Owner: Respondents who did not own a working bicycle fall under this category, and make up the majority of the population of those who work in Downtown Louisville at 53% of the respondent population. Not only were people who didn't own bikes very inactive when compared to those who do, they were less active than the average respondent in this survey. Females are more likely to not own bikes, and it is noteworthy that this classification had a higher percentage of minorities than the other two classifications combined. People who don't have bikes also were typically of lower income than the other two categories.

Demographics			
Which best describes you?	Frequent	Infrequent	Not Owners
Very physically active	43.2%	23.0%	13.7%
Somewhat physically active	46.6%	48.3%	42.3%
Physically active sometimes	8.9%	20.3%	30.2%
Not physically active	1.4%	8.0%	13.5%
Gender	Frequent	Infrequent	Not Owners
Male	52.1%	37.7%	23.7%
Female	45.9%	61.3%	74.9%
Prefer not to answer	0.0%	0.7%	1.2%
Race	Frequent	Infrequent	Not Owners
American Indian/Native	0.0%	1.0%	0.8%
Asian	1.4%	0.7%	1.8%
Black/African American	4.8%	5.7%	13.3%
Caucasian	89.0%	89.7%	78.1%
Hispanic/Latino	1.4%	0.7%	1.4%
Other	2.1%	1.0%	2.2%
Marital Status	Frequent	Infrequent	Not Owners
Married/Partnered	67.1%	70.7%	56.5%
Single	32.2%	29.0%	42.1%
Living with Children	Frequent	Infrequent	Not Owners
Yes	32.2%	40.0%	26.6%
No	67.1%	59.0%	72.6%
Household Income	Frequent	Infrequent	Not Owners
Less than 25,000	2.7%	3.0%	7.0%
25,000-35000	13.0%	6.7%	15.1%
35,001-50,000	11.0%	13.7%	19.1%
50,001-75,000	18.5%	19.3%	17.5%
75,000+	50.0%	51.3%	33.8%
Commute Distance	Frequent	Infrequent	Not Owners
Don't commute	0.7%	0.3%	0.4%
1-5 miles	45.2%	18.0%	20.5%
6-10 miles	26.7%	25.0%	26.4%
11-15 miles	14.4%	26.0%	20.9%
16-20 miles	5.5%	14.0%	14.3%
21-25 miles	2.7%	7.3%	7.2%
26+ miles	4.8%	9.3%	9.9%

Activity Levels >30%

Females made up 67% of all respondents

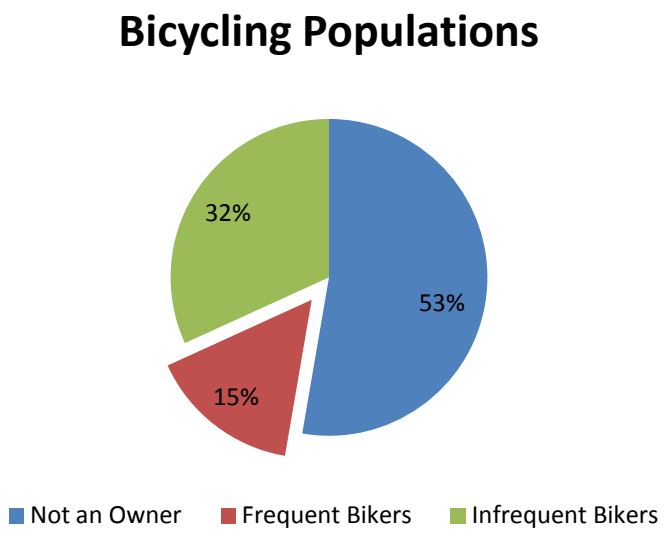
Racial Trends corresponding to riding frequency

Average Married: 63%

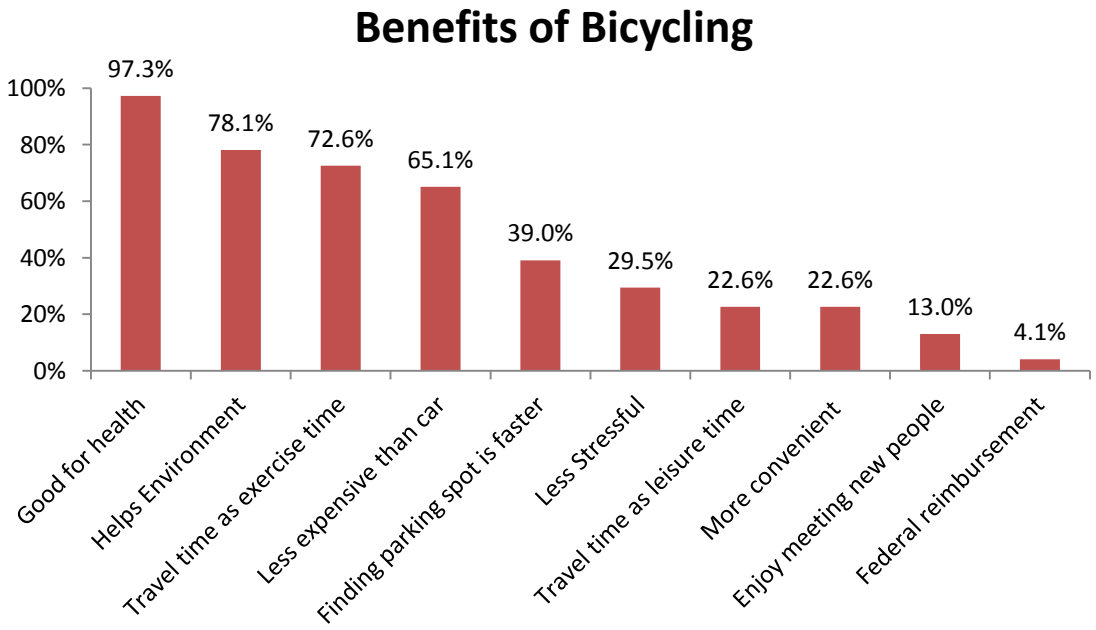
Average W/ no Children: 68%

Top 50%

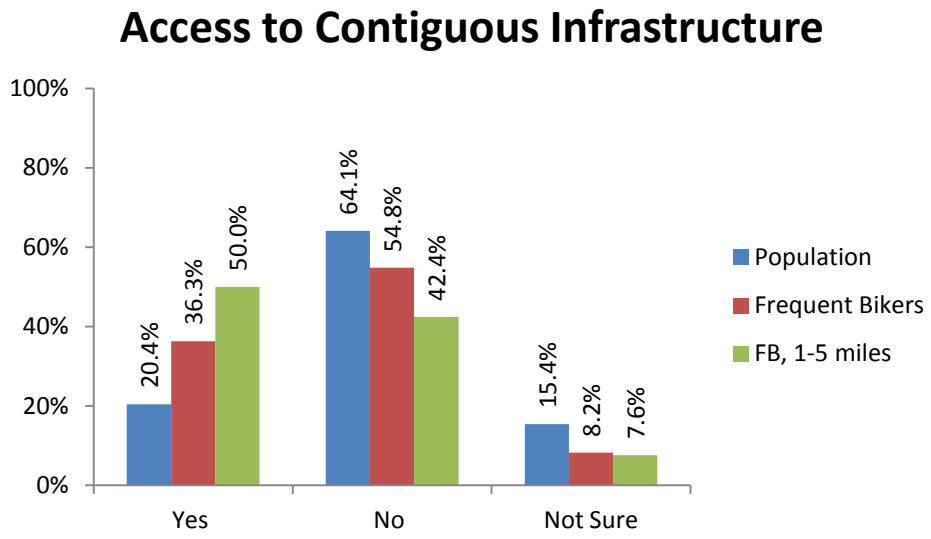
Frequent Bikers



Only 15% of the population of people working in Downtown Louisville are Frequent Bikers, or people who bike more often than once a month. When asked what they value most about riding a bicycle, this group gave an average of 4.4 answers per person, a very high number out of the ten available choices. Virtually all of them (97.3%) stated that it was good for their health, while the benefit to the environment and using travel time as exercise time were the next two popular choices, both getting over 70% of the vote. These high response rates and the popular benefits show us that this group is not only frequently cycling as a commuting method merely because it is practical but because it has many other idealistic characteristics that benefit many different people.

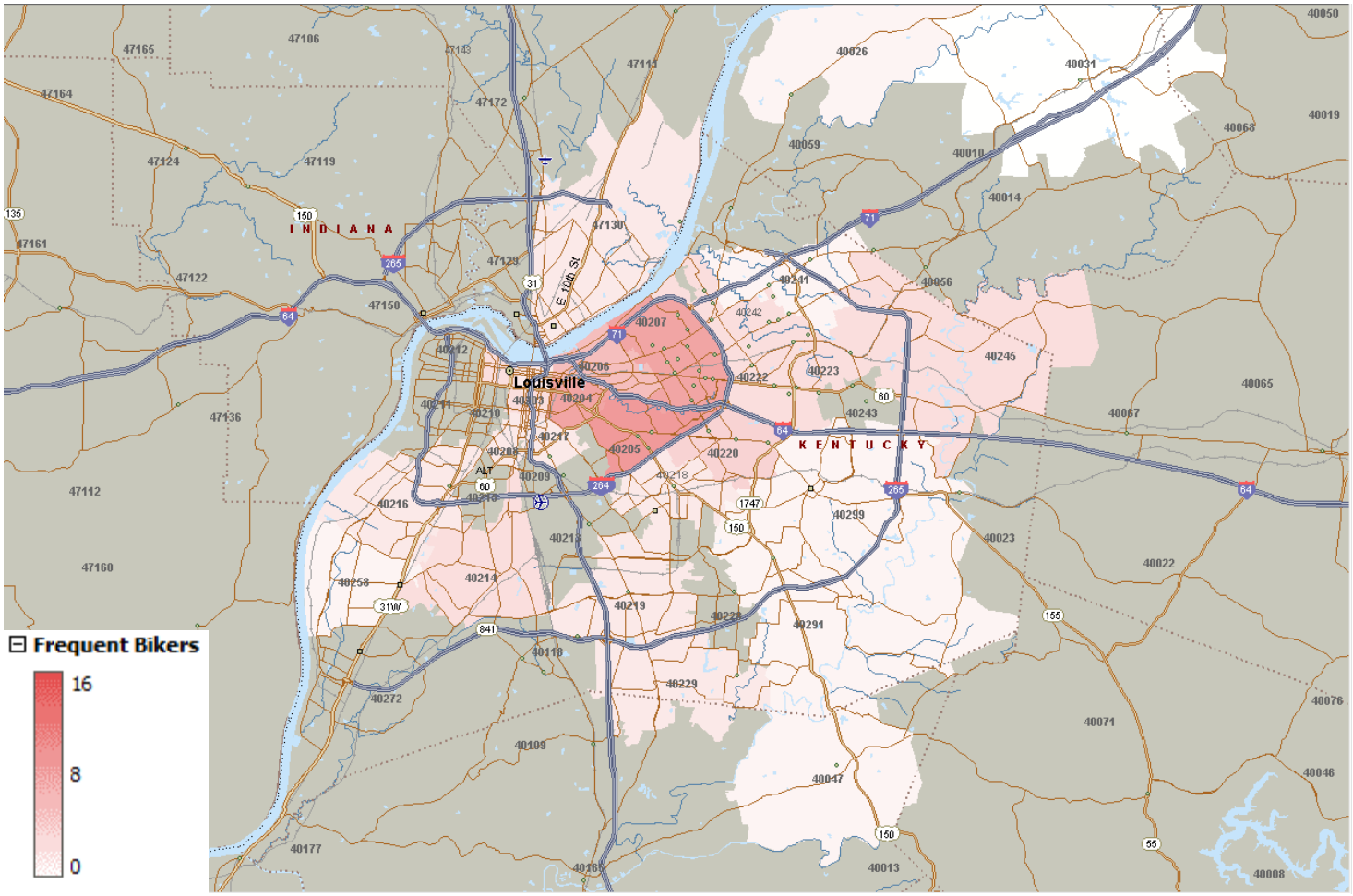


Frequent bikers were asked whether they had contiguous bike lanes or paths between their house and their places of employment, and while only 36% indicated that they did, this is much higher than the general sample in which only 20% indicate having access to contiguous bike infrastructure to their place of employment. While some of these numbers might initially seem low, especially when considering that Frequent Bikers live the closest to downtown compared to any other cyclist classification, it is important to take distance from downtown into effect, as that will have an impact on the amount of cycling infrastructure to which one has access. When we only look at Frequent Bikers who live within 5 miles of Downtown Louisville, we find that 50% indicate having access to contiguous bike lanes.

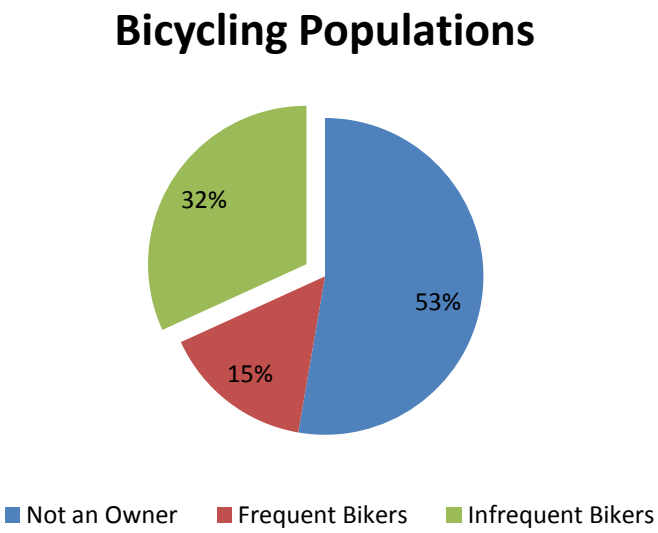


The distribution map below details where Frequent Bikers live who don't have access to contiguous bike lanes to downtown Louisville. It is important to realize that the map is not standardized for area density; dark regions indicate where most cyclists reside who don't have contiguous lanes and not the greatest percentage of the frequent bikers population. This map details where the highest numbers of frequent cyclists reside who would benefit from the addition of cycling infrastructure

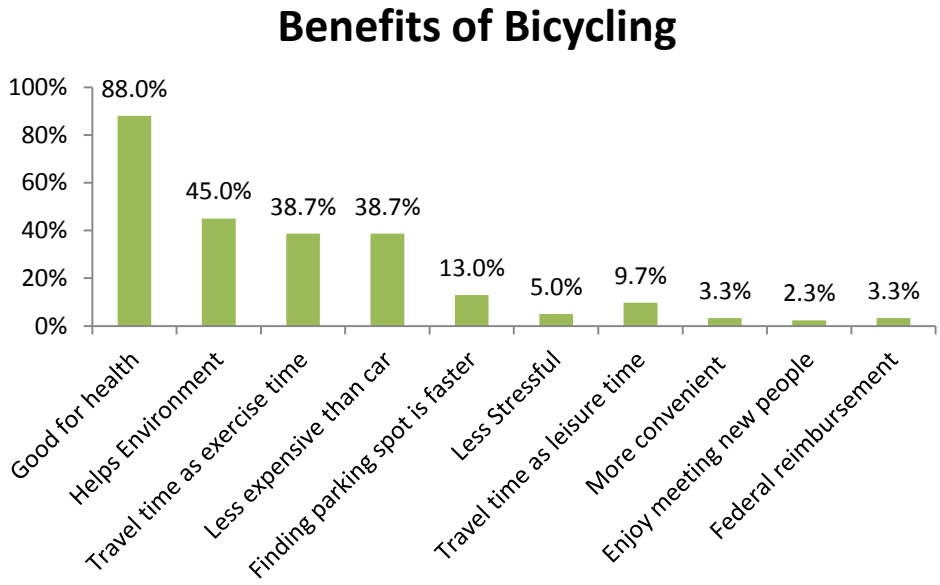
When we look at the location of Frequent Bikers who don't have access to contiguous cycling infrastructure to Downtown Louisville we see that there is not a single region that houses a vast majority of these respondents. However, it is worth noting that the eastern side of downtown within Interstate 264 (zip codes 40204-40207) does have a higher concentration of Frequent Bikers without access to contiguous lanes than other regions on the map. As we will see later in this section, access to bike lanes and perceptions of safety on the road are correlated with whether a downtown worker decides to use a bicycle as a method of transportation or not.



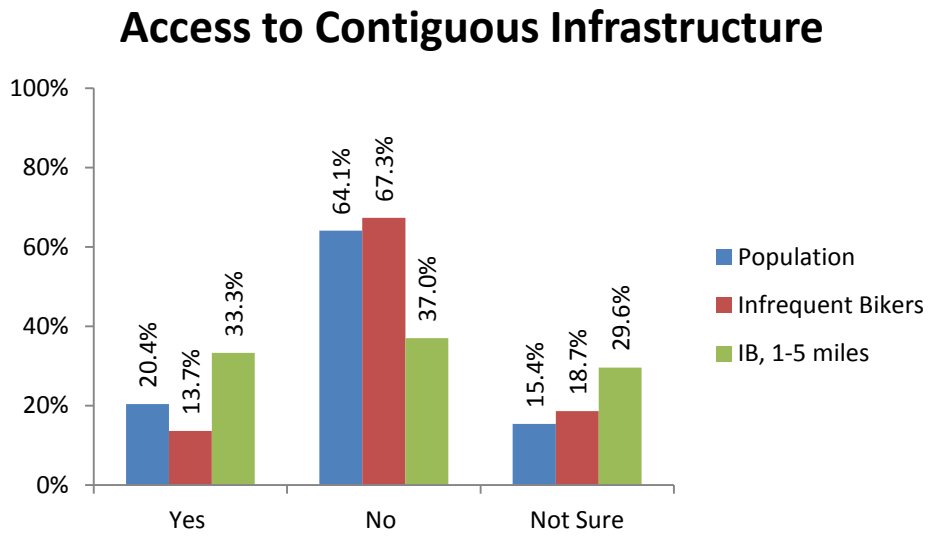
Infrequent Bikers



Members of the downtown working population who own a bike but use it once a month or less for trips are classified as Infrequent Bikers and make up 32% of the total population. Similar to Frequent Bikers, Infrequent Bikers also list bicycling benefiting their health, environmental benefits, and the ability to use their travel time as exercise time as the top three values to bicycling as transportation. However, it is important to note that significantly fewer respondents in this category selected these answers less often than the Frequent Bikers, and overall the average Infrequent Biker selected 2.5 choices out of the ten available, compared to the 4.4 for the Frequent Bikers. These differences in response tell us that although people in this classification do value biking for the qualities that they mentioned, they are slightly less enthusiastic about these qualities than the Frequent Bikers.

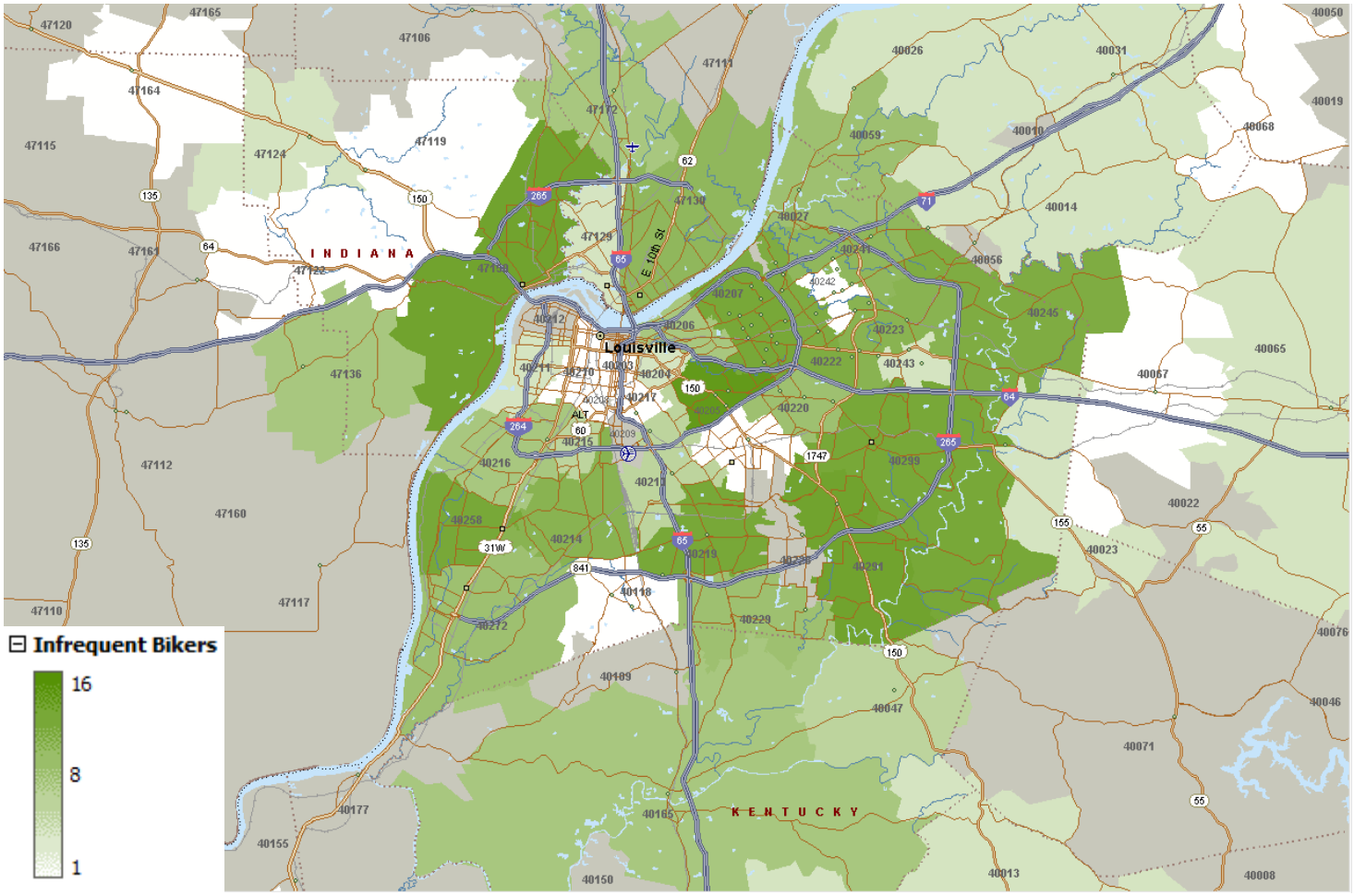


When we look at Infrequent Bikers and their access to contiguous cycling infrastructure on their way to work, we find the percentage of Infrequent Bikers who indicate having access to contiguous bike lanes is 22 percentage points lower than Frequent Bikers. Some 12 percentage points more of Infrequent Bikers do not have access to continuous bike lanes, and a significant portion of this group are not sure about their access to bike lanes. Whenever we narrow our search to Infrequent Bikers who live within 5 miles of Downtown Louisville, we find that the amount of people with access to continuous bike lanes does increase although a significant portion of this group who is not sure about their access to infrastructure remains.

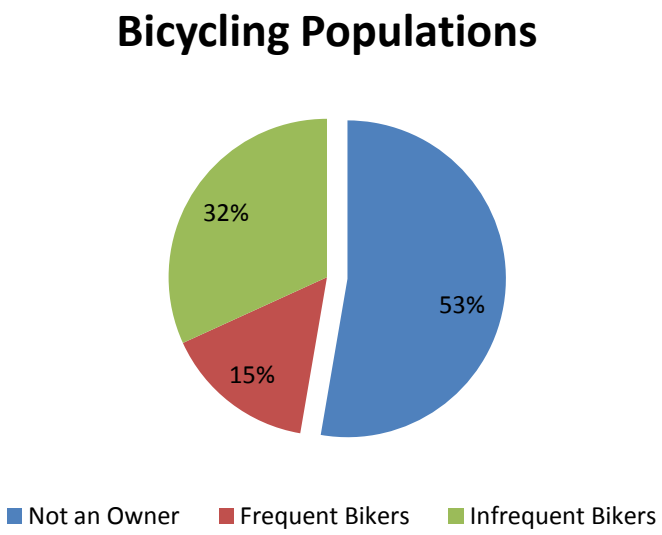


The distribution map below details where Infrequent Bikers live who don't have access to contiguous bike lanes to downtown Louisville. It is important to realize that the map is not standardized for area density; dark regions indicate where the most infrequent cyclists are who don't have contiguous lanes and not the greatest percentage of the region. This map details where the highest numbers of infrequent cyclists reside who would benefit from the addition of cycling infrastructure.

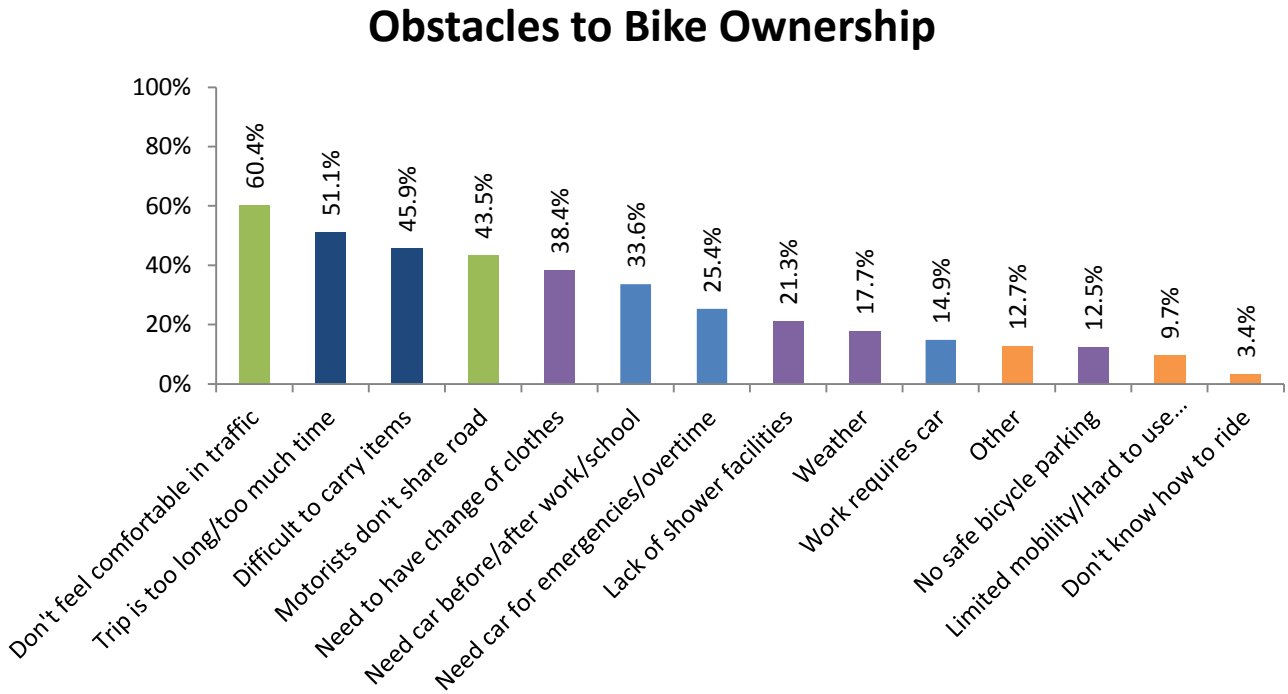
When we look at the distribution of Infrequent Bikers who do not have access to contiguous bike lanes we see that they are fairly well spread out, although there are many regions of relatively high density. The closest regions to downtown that have a fair amount of people are the 40205-40207 zip codes, which were also where the highest concentrations of Frequent Bikers who didn't have access to contiguous lanes resided. The map detailing this distribution is located below.



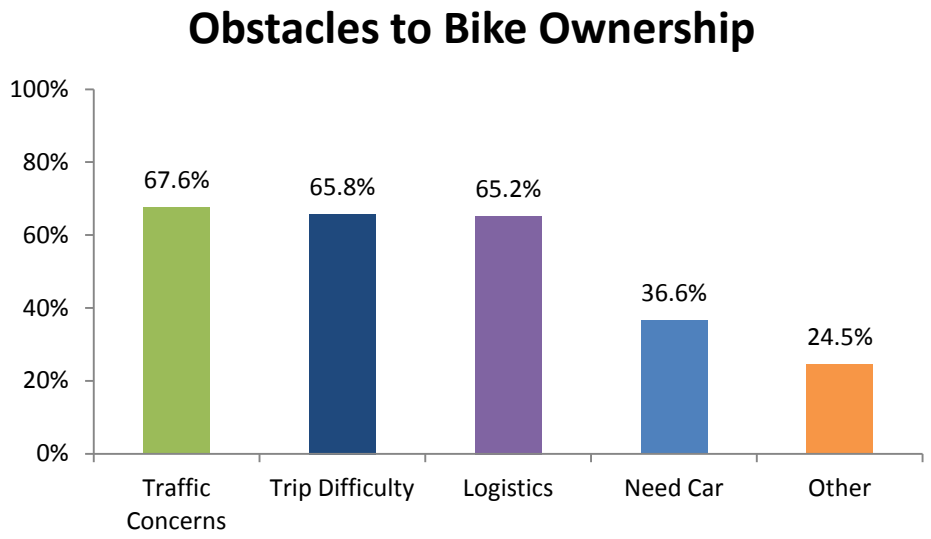
Not Bike Owners



Of everyone working in Downtown Louisville, people who do not own or have access to a working bicycle make up just over half, or 53%, of the population. When we look at the reasons respondents don't own or have access to a bike, we find the following reasons:



After analyzing the different types of responses, we grouped the obstacles into four categories: traffic concerns, trip difficulty, logistics, need for a car, and an "other" category. The breakdown of survey respondents into these categories are below.

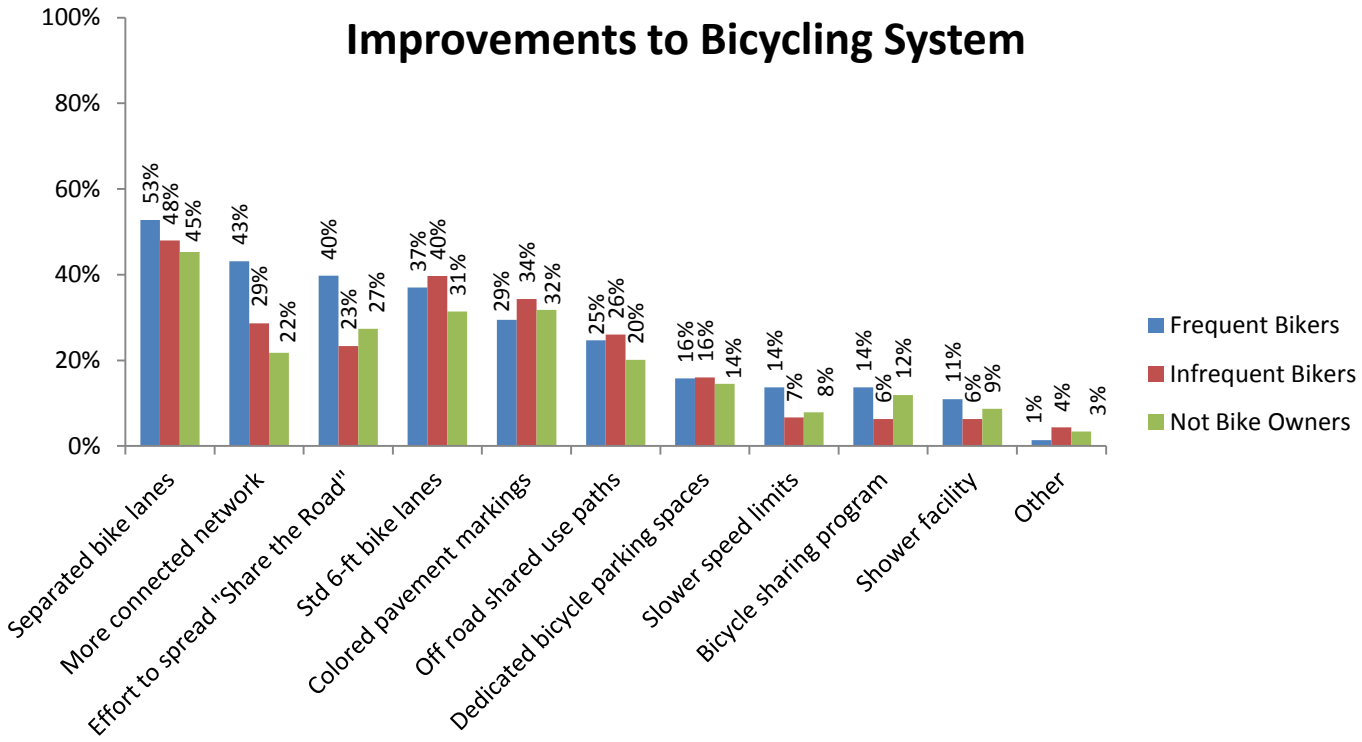


It is clear that over 60% of respondents had concerns that fell into a combination related to traffic concerns, trip difficulty, and logistics. While at first it appears there are many problems with the biking system that prevent people from owning a bicycle, some of these categories are merely problems that cannot be avoided. Trip difficulty, for example, consists of the concerns that a trip is too long and the difficulty associated to carry items that are needed. However, concerns such as traffic (don't feel comfortable in traffic, motorists don't share the road) are something that may be able to be reduced with implementation of different infrastructure, as we will see is suggested in the coming pages.

Trip logistics is another category that stops a lot of downtown workers from owning a working bicycle. Respondents in this category cited either the need for a change of clothes or a shower, concerns about the weather, or the fact that there is no safe bicycle parking at their destinations as the constraints that inhibit them from owning a bicycle.

Bicycling Improvements and Evaluations

When we look at the suggested improvements to the existing Louisville bicycle system from each of the different classifications of bicycle usage we see that every one of the six most popular improvements is related to cyclist safety, either through standard or separated bike lanes or through a movement to spread the pro-safety "Share the Road" message. The Infrequent Bikers' most popular improvements were separated bike lanes and standard six foot bike lanes at 48% and 40%, respectively. This once again reinforces the message that these bike owners would like to ride their bikes and see the benefits in doing so, but want to see the development of infrastructure. Another interesting takeaway is that of the people who don't own bikes, only 12% thought that a bike sharing program would be an improvement to the current bicycling system. This either tells us that these members of the population are not that interested in riding bikes or that they wish to purchase their own bikes but will not do so until their obstacles to bicycling for transportation is overcome. Either way, a bicycle sharing program does not appear to be the vessel to get more of the downtown working population riding bicycles.



Although the above chart gives an indication of how the bicycle transportation system is doing according to the workers in Downtown Louisville, on the next page we will examine their evaluations of the current and future direction of the cycling system.

When asked about the perceived safety of cycling in Louisville, the respondents of the survey do not give a very kind review with 43% of the general respondents giving the current safety a one or two on a five point scale; people who are actively saying that they currently do not feel safe while cycling in Louisville. Another 45% of the population gave the safety a score of 3, not a terrible rating, but it certainly shouldn't be interpreted as the respondents saying the current system is somewhat working. Another alarming take away from these responses is the lack of people giving high ratings of four or five; only 11% of the working population of Downtown Louisville is actively saying that they currently feel cycling in Louisville is safe.

How safe do you believe cycling is in Louisville?	Frequent	Infrequent	Not Owners
1	8.9%	13.6%	13.1%
2	31.5%	34.7%	27.0%
3	40.4%	40.1%	49.5%
4	19.2%	10.2%	8.0%
5	0.0%	1.4%	1.2%
Average	2.7	2.5	2.6

43% of population

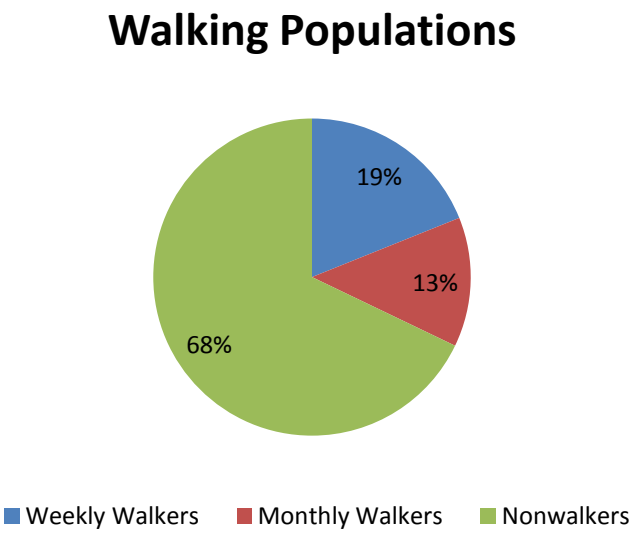
45% of population

The surveyed population is not entirely clear on whether Louisville is headed in the right direction to becoming bicycle friendly, with 31% giving a high score, 46% giving a middle score, and 23% giving a low score. Although the number of respondents giving a low score decreased dramatically from the previous question, the fact that 23% of this population is actively stating that Louisville is headed in the wrong direction with developing cycling should be somewhat startling. Another realization should concern the 43% who gave a 3 on the five point scale; while they don't wholly agree that Louisville is heading in the wrong direction, they certainly don't agree that it is headed in the correct direction either.

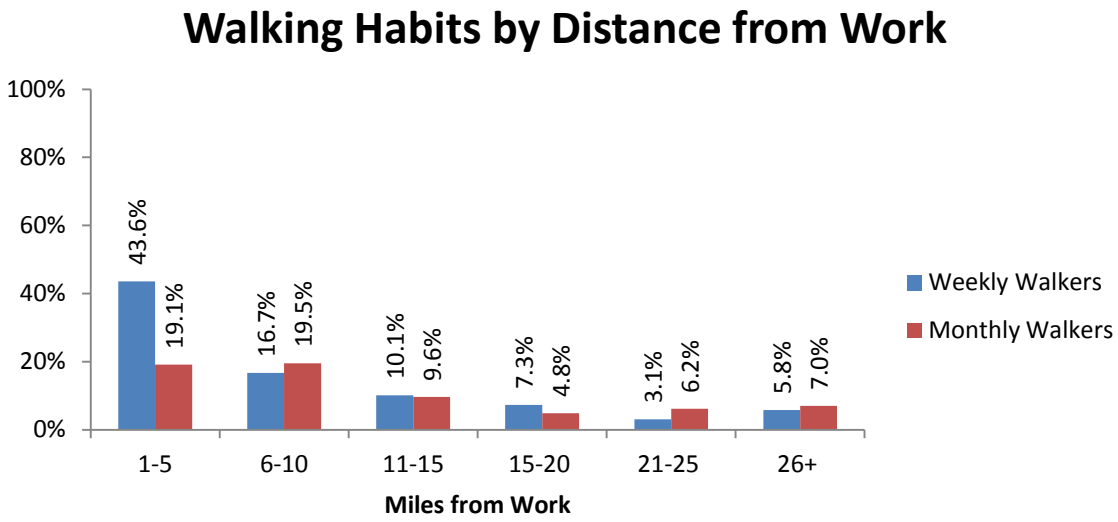
Louisville is headed in the right direction to becoming bicycle friendly	Frequent	Infrequent	Not Owners
1	4.8%	8.2%	7.6%
2	16.4%	17.0%	14.6%
3	35.6%	42.5%	51.3%
4	37.0%	25.5%	20.9%
5	6.2%	6.5%	5.5%
Average	3.2	3.0	3.0

Walking

When we look at the walking habits of the surveyed working population of Downtown Louisville we see that just fewer than 68% do not walk at all, 19% of those surveyed walk on a weekly basis, and 13% walk on a monthly basis. The chart below visualizes these segments of the population.



It is apparent that the amount of people who walk is highly dependent on the available sidewalks or alternate use paths available to someone. Whenever we stratify the walking habits of people by their distance from Downtown Louisville the people who are closest to downtown tend to walk most frequently, and we see that the distance from work dramatically influences the frequency of the respondents' walking habits.



Although distance does have an effect on the walking choices of the workers of Downtown Louisville, we have decided to look at the responses of these workers through the frequency of their walking habits rather than by the distance that they live from work. Doing so naturally takes into account the relationship between distance and walking habits, and would not include the potentially skewing of data of those who live close to downtown but do not walk at all. Therefore, we have divided the responses of those surveyed into three categories: Weekly Walkers, Monthly Walkers, and Nonwalkers.

Weekly Walkers: Weekly walkers were those who identified themselves as people who walked at least once a week, and they tend to walk more often than that. Compared to the general population and nonwalkers, weekly walkers are more likely to be physically active, male, and are less likely to be married and have kids. While there are a higher number of weekly walkers in the income range of under $25,000 they are similar to the other two populations when looking at the remaining income categories. Weekly walkers, while still predominantly employed full time, are more likely to be part time employees and students. As mentioned above, weekly walkers are much more likely to live close to downtown; 54% live within five miles.

Monthly Walkers: While slightly less physically active than the weekly walkers, monthly walkers classify themselves as generally more active than the average worker who was sampled in this survey. They still had a higher male tendency than the sample, and like the weekly walkers were less likely to be married and have kids than those who do not walk. While this classification is still distributed closer to downtown than those who don't walk they are generally further than weekly walkers, as 33.9% live within five miles.

Nonwalkers: Of those who work in Downtown Louisville, nonwalkers generally saw themselves as slightly less active than the rest of the group, and were made up of slightly more females than the average population. Compared to the other two categories they were significantly more likely to be married and have children, although when compared to the general population these proportions were only slightly higher. This group is made up of more full time workers than the other two, and as expected live much further away from Downtown Louisville, with only 13% living within 5 miles of the city epicenter.

Demographics			
Which best describes you?	Weekly	Monthly	Nonwalkers
Very physically active	29.7%	25.2%	17.8%
Somewhat physically active	50.0%	51.2%	42.4%
Physically active sometimes	14.8%	18.1%	27.3%
Not physically active	4.4%	5.5%	12.1%
Gender	Weekly	Monthly	Nonwalkers
Male	36.8%	38.6%	29.6%
Female	61.0%	59.1%	69.2%
Prefer not to answer	1.1%	0.8%	0.8%
Marital Status	Weekly	Monthly	Nonwalkers
Married/Partnered	56.0%	57.5%	65.5%
Single	42.9%	41.7%	33.1%
Living with Children	Weekly	Monthly	Nonwalkers
Yes	28.0%	22.0%	34.8%
No	70.3%	77.2%	64.3%
Employment Status	Weekly	Monthly	Nonwalkers
Employed, full time	87.4%	91.3%	94.6%
Employed, part time	3.8%	3.1%	2.3%
Student	6.6%	3.9%	2.1%
Retired	1.1%	0.0%	0.0%
Homemaker	0.0%	0.0%	0.0%
Commute Distance	Weekly	Monthly	Nonwalkers
Don't commute	1.6%	0.0%	0.2%
1-5 miles	53.8%	33.9%	12.9%
6-10 miles	22.5%	37.8%	24.0%
11-15 miles	11.5%	15.7%	25.6%
16-20 miles	4.9%	4.7%	16.7%
21-25 miles	1.1%	3.1%	9.0%
26+ miles	2.7%	4.7%	11.5%

Contains top 75% of category

67% of respondents female

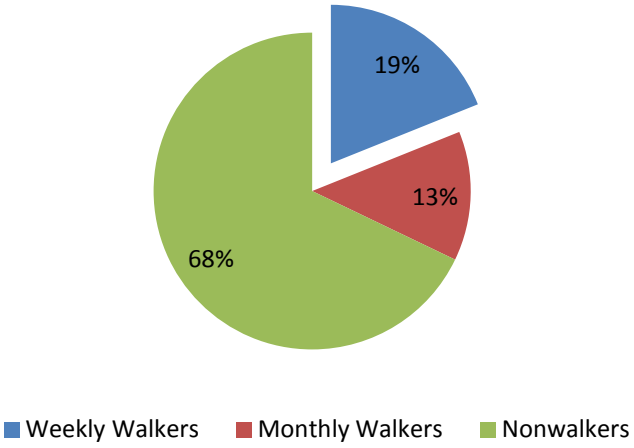
63% of sample was married

68% of sample had kids

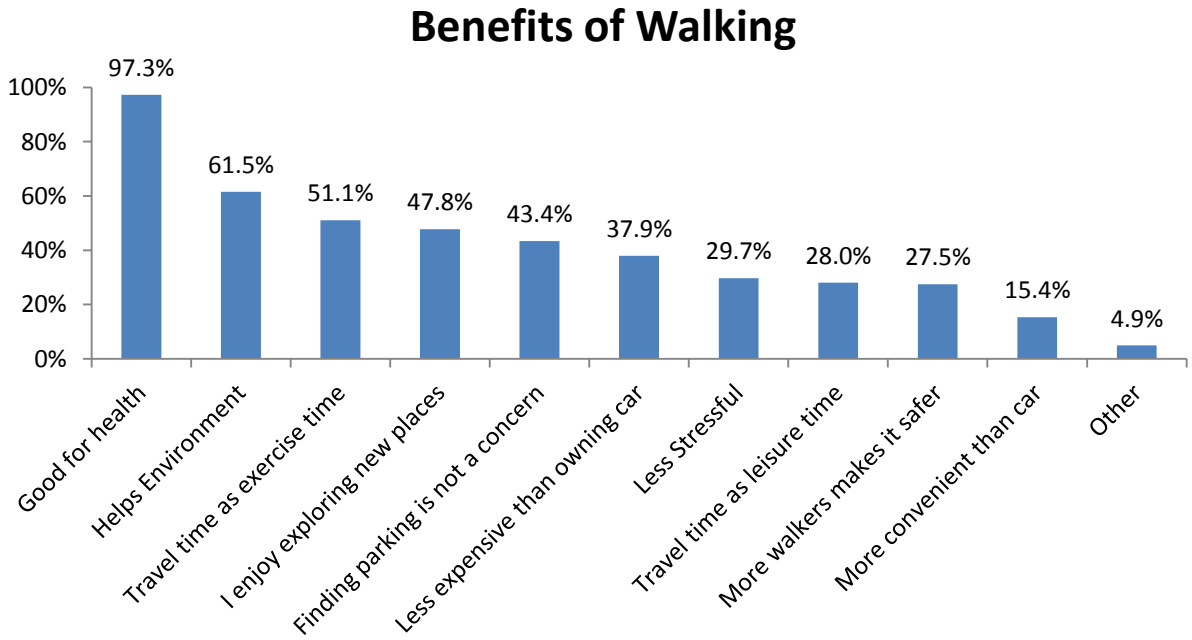
Student Population overrepresented in weekly walkers

Contains closest 50%

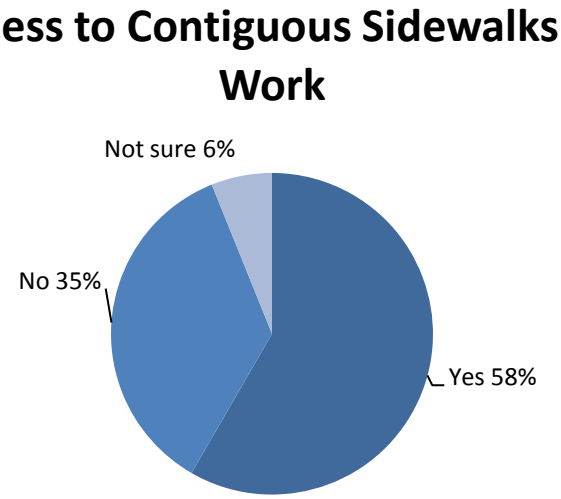
Weekly Walkers

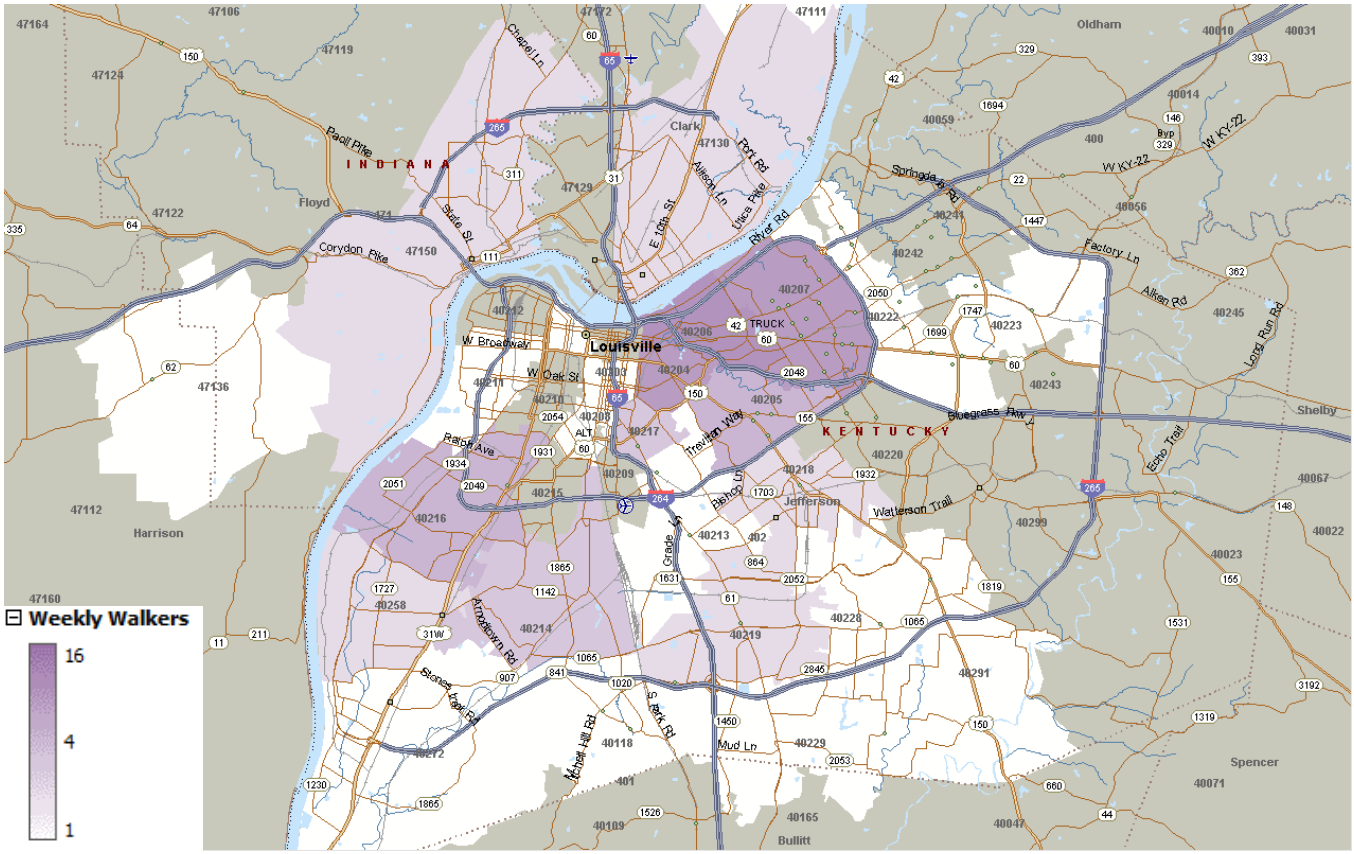


When asked about the benefits of walking that they most value, weekly walkers overwhelmingly gave a multitude of responses, with the average weekly walker giving 4.5 responses out of the 11 available, an atypically high number for a question such as this one. This tells us that weekly walkers not only see the benefits of walking, but are very enthusiastic about this method of transportation and believe it has many benefits to their lifestyle. Among the top three benefits valued were the benefit to their health, the benefit to the environment, and being able to use their travel time as exercise time; the exact same top three benefits that the frequent bikers cited.



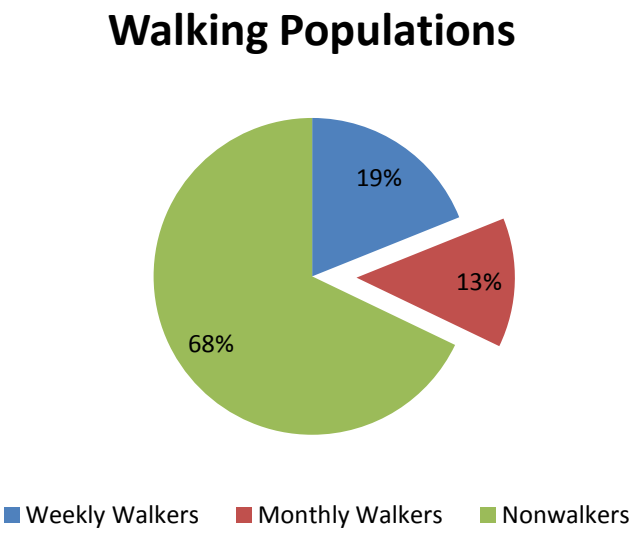
When we think about those who walk more than the average respondent, we might assume that this walker would have more access to sidewalks on their way to and from work than the person who doesn't walk as much. The responses given show that a slight majority of weekly walkers do have continuous sidewalks between themselves and work. However it is important to note that 35% of those who do walk on a weekly basis do not have access to sidewalks that connect from their home to work, suggesting that these people do not walk as a method of commuting to work, but as a method of transportation to other obligations or appointments of as a form of exercise.



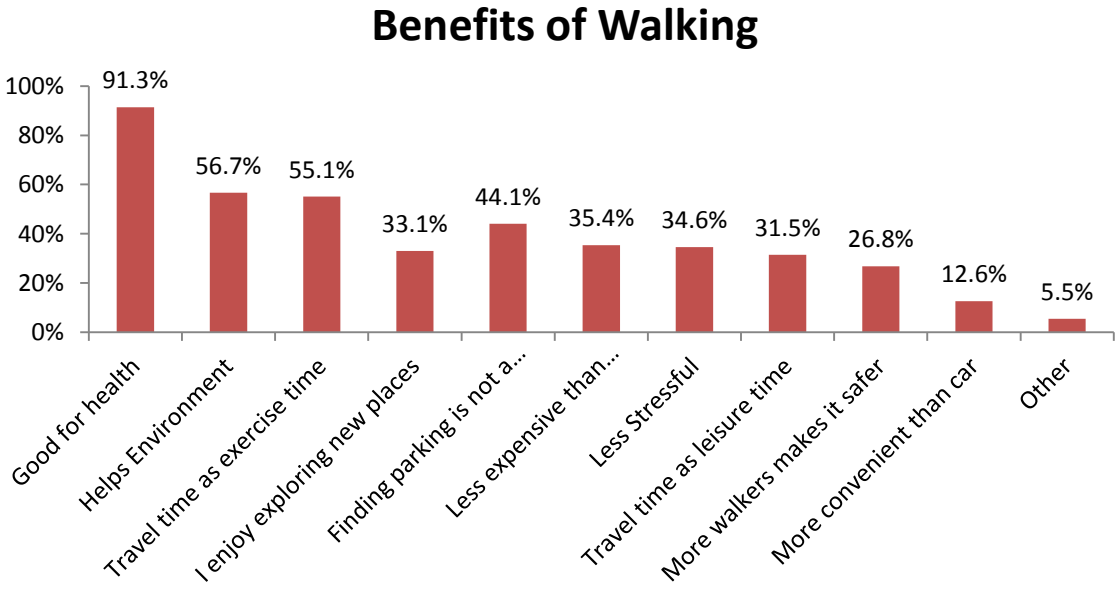


The map above shows the distribution of weekly walkers who indicated that they do not have access to continuous sidewalks or roads where it is safe to walk between their house and where they work. When examining the distribution above, it is important to note that the darkest areas are those with the highest raw count of weekly walkers who don't have continuous infrastructure, indicating the regions where the greatest number of weekly walkers would be affected by the implementation of sidewalks. Of course, we see some regions that don't have access to sidewalks all the way to work far away from Downtown Louisville, but it is interesting to see the numbers of weekly walkers who live within a fairly close distance from downtown but don't have access to this kind of infrastructure, especially on the East end of Louisville.

Monthly Walkers

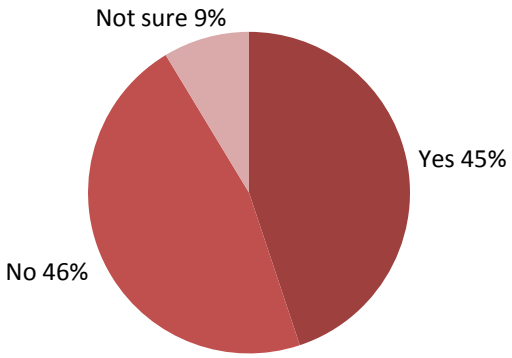


Compared to the weekly walkers, the monthly walkers indicated many of the same benefits for walking, although they did not necessarily select them with the same frequency. While the benefit to one's health was still valued by over 90% of the monthly walkers, they found the environmental benefit slightly less important at 57%, slightly lower than the weekly walkers. Another difference that the monthly walkers had from the weekly walkers is their lower emphasis on exploring new places while walking (down from 48%) and more emphasis the freedom from parking walking provides. Like the weekly walkers, monthly walkers were very enthusiastic about the benefits they experience through walking to their destination – the average respondent checked 4.3 boxes out of the available 11.

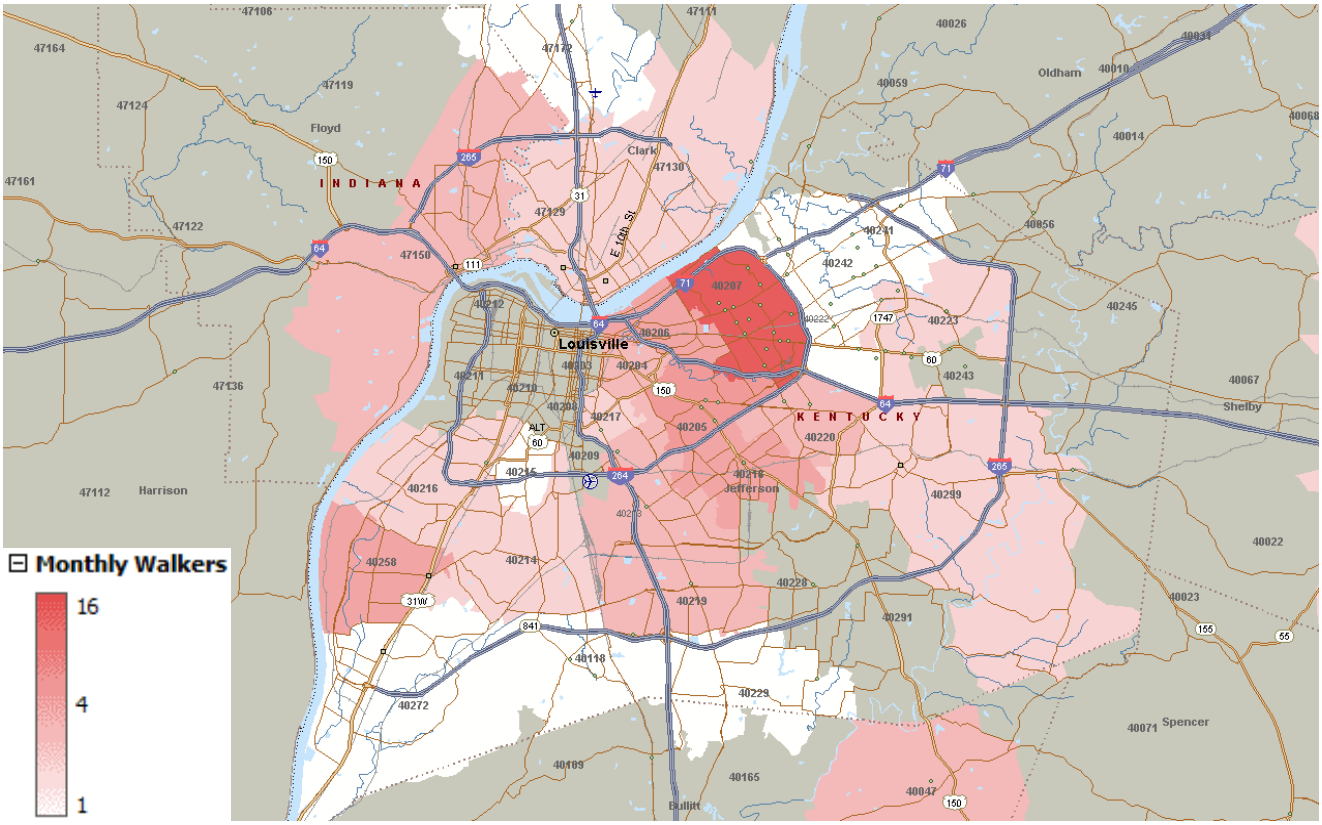


45% of monthly walkers have access to continuous sidewalks between their houses and where they work, compared to 58% for the weekly walkers. This reinforces the belief that increased access to sidewalks increases proportion of the population who walks as a method of transportation.

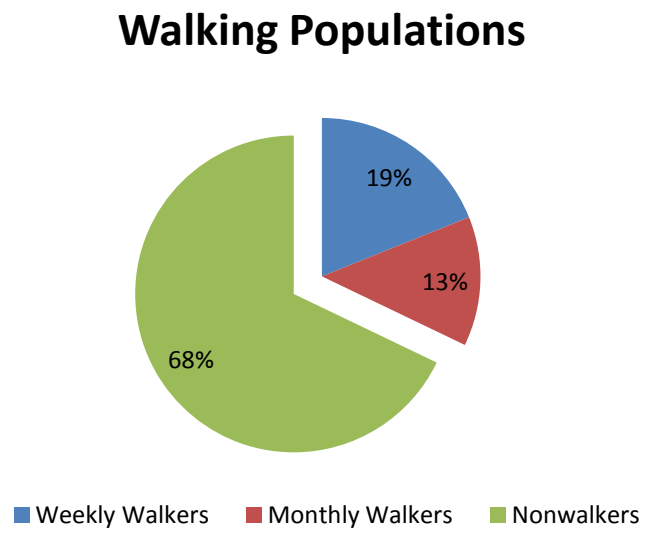
Access to Contiguous Sidewalks to Work



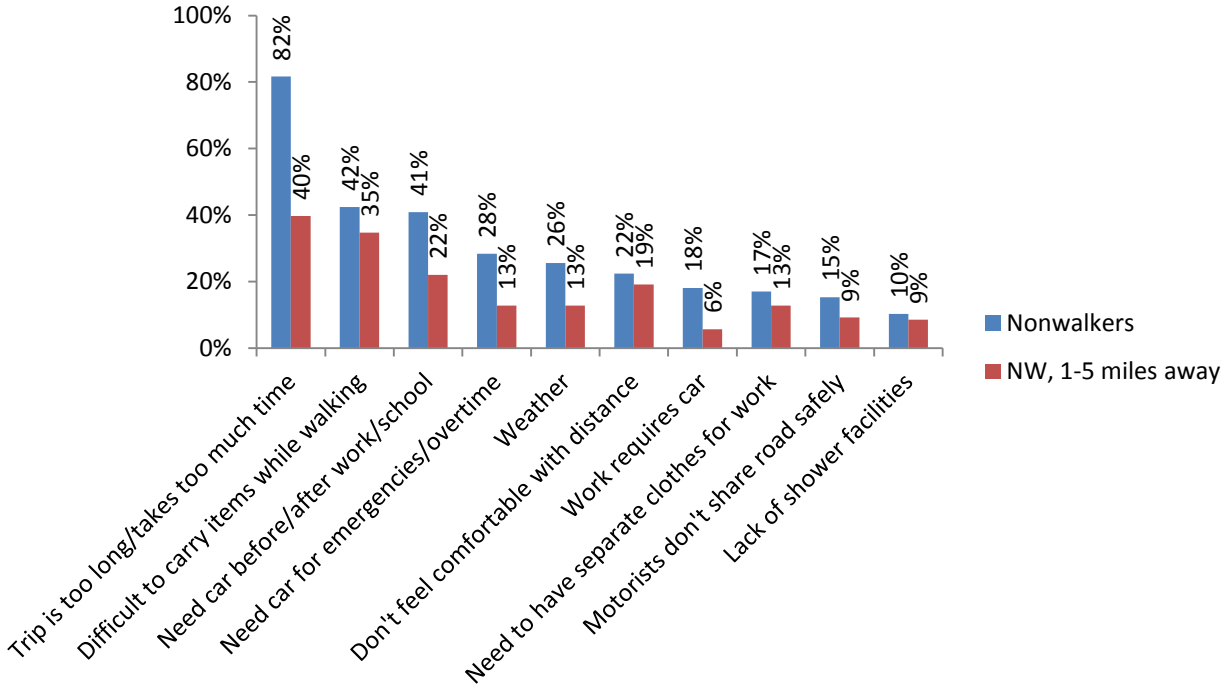
The map below shows the distribution of monthly walkers who do not have a continuous safe route to work. As before, the darkest regions indicate where the highest raw counts of monthly walkers live that do not have access to continuous infrastructure to Downtown Louisville.



Nonwalkers

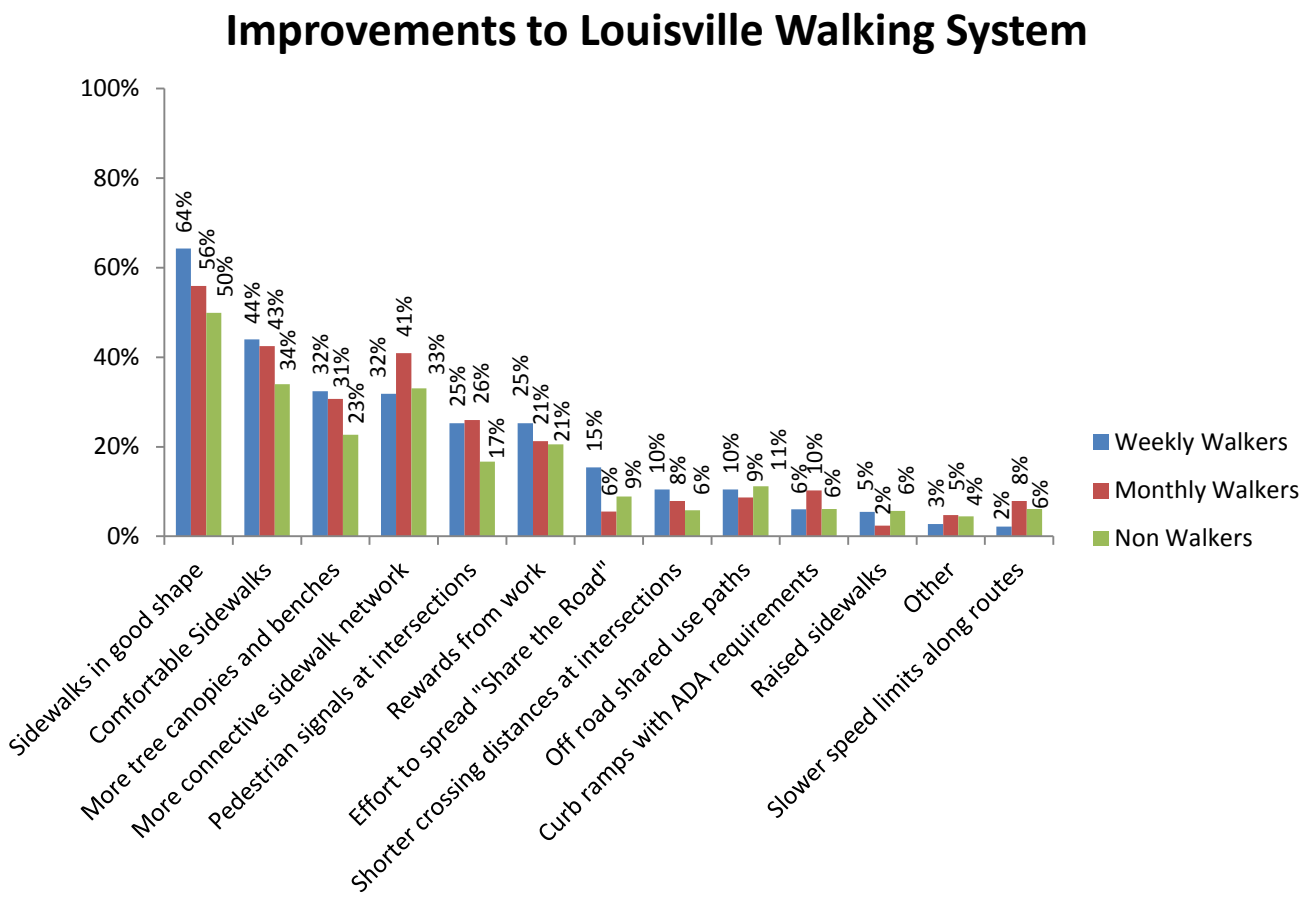


Over two thirds of the surveyed population of workers in Downtown Louisville does not walk with any frequency as a mode of transportation. Due to the survey construction, we were not able to collect data on the availability of sidewalks to this population; therefore we are unable to make an outright conclusion on the relationship between infrastructure availability and walking frequency. When we look at the obstacles that keep nonwalkers from walking as a mode of transportation, we see that the primary reason that they don't is the length of the trip, as 82% of nonwalkers stated. When we look at the responses of nonwalkers who live within 5 miles from downtown, still this was the most common obstacle to walking for transportation.



Walking Improvements and Evaluations

When we look at the suggested improvements indicated by each group we see that the categories tend to align on many of the items that would improve the system the most. When we examine the top four suggested improvements to the Louisville walking system, we see that three are related to the sidewalk network by either making it better, more comfortable, or more connective throughout the city. The monthly and nonwalkers put more emphasis on the connectivity of the sidewalk system than the weekly walkers did, making it the third most popular category for both of those classifications. It is important to note that while the groups indicated enthusiasm for a better sidewalk system, this system does not necessarily include off road shared use paths, which only 11% of the total respondents indicated would be important improvements to help encourage Louisville to walk more often.



When asked about how safe they believe walking is in Louisville, the downtown working population who we sampled responded in a manner that was slightly more positive than negative. Some 35% of the general sample gave safety a high score (a four or five) on the five point scale. Here, it is important to notice the distinction among the different groups of walkers: approximately 45.0% of weekly walkers gave safety a high response compared to only 30.7% of nonwalkers who gave a high review.

How safe do you believe walking is here in Louisville?	Weekly	Monthly	Nonwalkers
1	3.3%	2.4%	6.8%
2	17.8%	12.8%	18.6%
3	33.9%	39.2%	43.8%
4	38.9%	37.6%	26.2%
5	6.1%	8.0%	4.5%
Average	3.3	3.4	3.0

When we look at the opinions of the respondents regarding the direction Louisville is headed to becoming pedestrian friendly, we see that the responses given are more indifferent with almost half of the total population indicating a three, a score generally seen as an apathetic or indifferent score. Notice how the frequency of threes increases as the walking frequency decreases, perhaps demonstrating that these respondents just are unaware about the steps that Louisville is taking to improve their walking system. The high and low scores of the general sample were very similar, at approximately 25% of the population. This shows us that of the downtown workers who were sampled, there is indecision as to whether Louisville is headed in the right direction to becoming more pedestrian friendly.

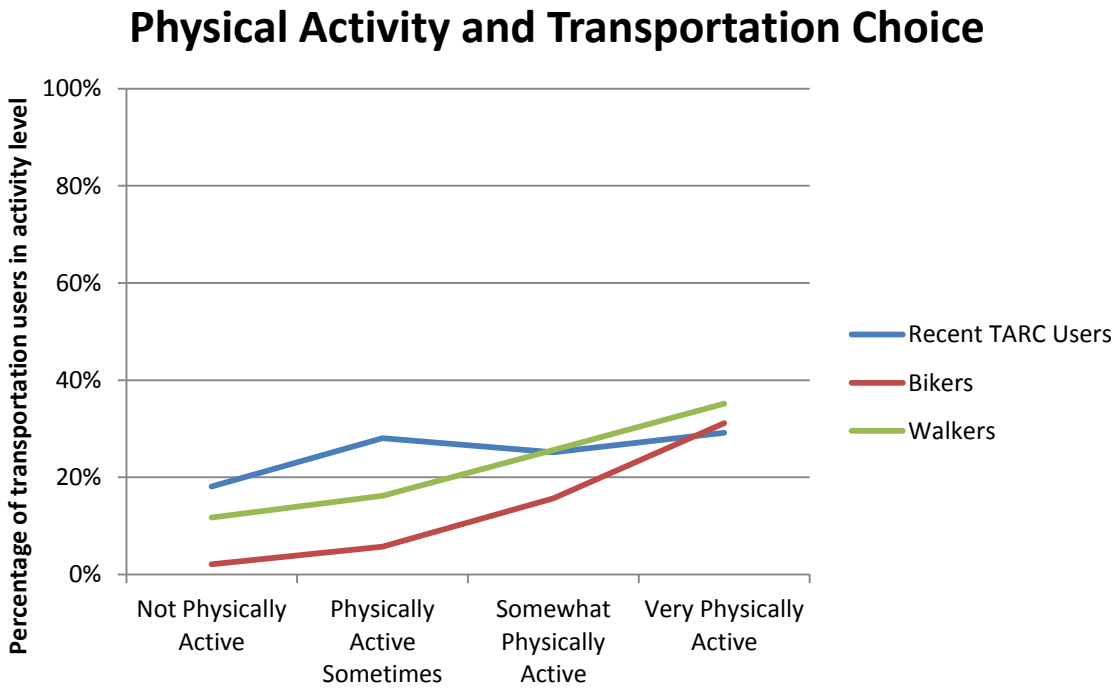
Louisville is headed in the right direction to becoming a pedestrian friendly community	Weekly	Monthly	Nonwalkers
1	6.1%	3.1%	7.4%
2	21.0%	17.3%	18.0%
3	40.9%	49.6%	50.1%
4	24.3%	22.0%	19.4%
5	7.7%	7.9%	5.1%
Average	3.1	3.1	3.0

Demographic Influences on Alternative Transportation Choices

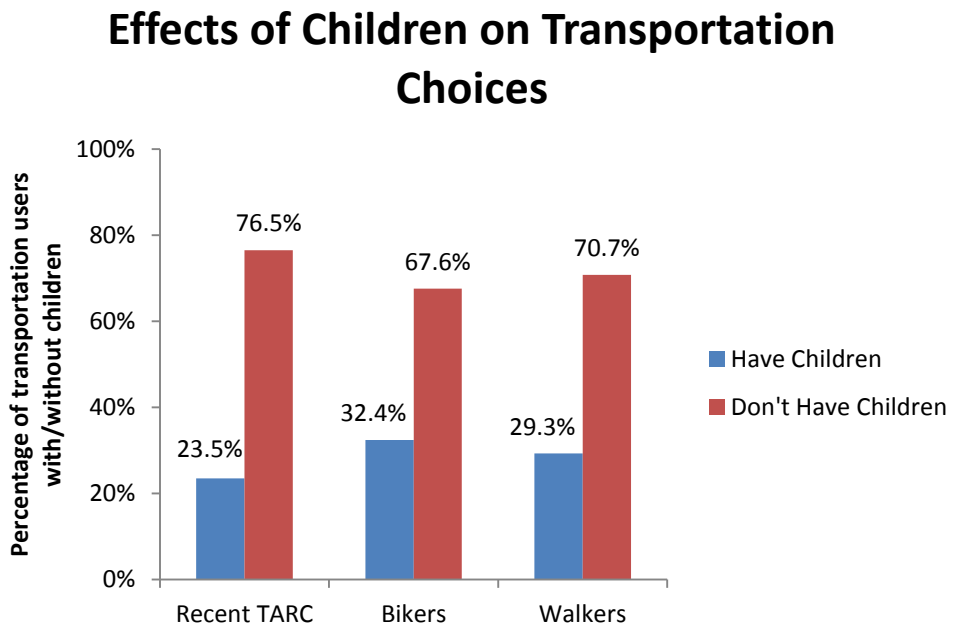
As we conclude our analysis on the transportation choices of the working population of Downtown Louisville, we look at those who choose alternative transportation modes and compare those against different demographic factors. The intent is to attempt to identify patterns in which certain aspects such as activity level, children, income, and residential distance from Downtown Louisville influence the frequency with which members of the population choose an alternative method of transportation.

The trend chart below shows the proportion of respondents stratified by self-reported activity levels who engage in alternative modes of transportation. As is apparent in the trends, as activity level increases among the population, a higher percentage of respondents engage in walking and riding. The percentage of frequent bikers increases from 2% of those who aren't physically active to 31% of those who are physically active, while walking increases from 16% to 35%.

Although TARC at first glance appears to be on a slight upward trend, we would conservatively say that this line is relatively flat and would caution against assuming that activity level has a significant influence on TARC usage. While all of these conclusions would seem intuitive, it is important to notice that the disparity in transportation choices between those who are not physically active and those who indicate being very physically active is quite large. The takeaway: the more physically active you are, the higher the probability is that you engage in alternative methods of transportation.

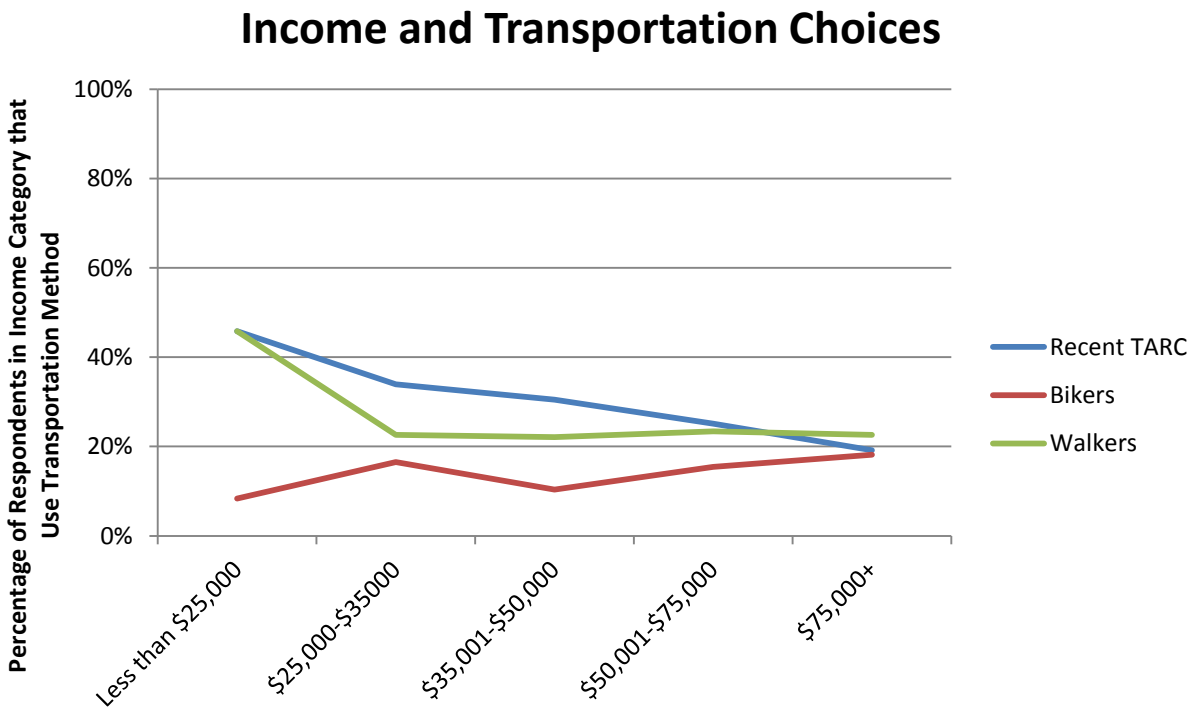


Looking at the differences among the alternative transportation methods and the percentages of the population who have children living at home, we see that there does seem to be a relationship between not having children and riding TARC or walking as a means of transportation. Keep in mind, 67.9% of respondents of the general survey did not have children living with them at home. There was virtually no change between the amount of frequent bikers that have and do not have children from the general sample, suggesting that children might not have as great of an impact on those who use cycling as a method of transportation.

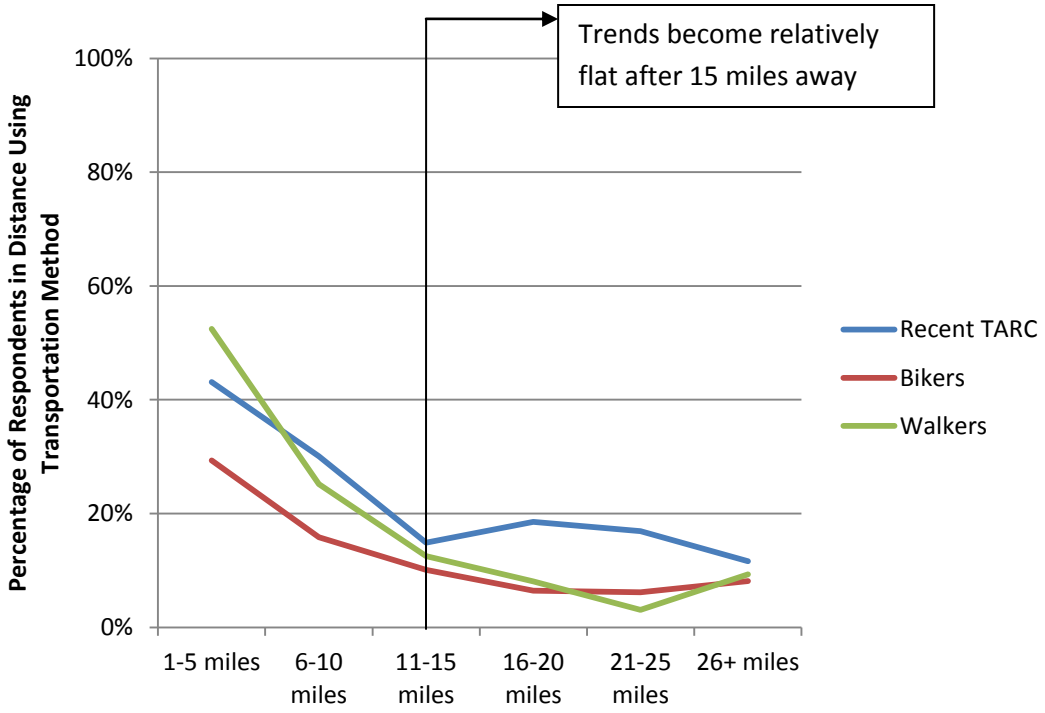


As may be expected, annual household income seems to play a role in the choices that the downtown working population makes in regards to their transportation. Bicycling seemed to have no clear relationship with income. TARC had a distinct negative relationship with income – as income rose, recent TARC usage drastically decreased from 46% for those making less than $25,000 to just 19% for respondents with incomes greater than $75,000.

Perhaps the most interesting of the three, 46% of respondents in the lowest income category walk at some frequency for transportation, and for the rest of the income categories the proportion of walkers hovered around 22%. We interpreted this as showing that walking is significantly more prevalent whenever you fall in the under $25,000 category, but after that line is crossed income seems to have a negligible impact on the decision to walk.



Finally, we examine the relationship distance from downtown (or work) has with the alternative transportation choices that workers make. As might be expected, distance does appear to play a role in how often downtown workers choose alternative transportation modes. Further, each mode of transportation seems to have its own inflection points after the workers get outside of 15 miles from downtown. This inflection point is telling us that any worker who lives more than 15 miles from Downtown Louisville has approximately the same probability of using an alternative method of transportation as someone who does live within the 11-15 mile range. These trends make it clear that as workers get further away from the city's epicenter, the chances that they use alternative transportation are drastically decreasing; in other words, the further away a downtown worker lives from work, the more likely they are to drive as a means of transportation for everything they go to.



While we see that distance has an impact on total transportation method usage, it is important to realize how distance away from downtown affects the frequency of the method of transportation usage. As we examine the cross tabulation of walking frequency and distance from downtown below, we notice that if a worker lives close to downtown, they are more likely to walk several times a week as a means of transportation. This relationship however, is not entirely distinct, leading us to state this conclusion somewhat hesitantly.

Walkers			
%age of walkers within distance	Distance from Downtown		
Frequency	1-5 miles	6-10 miles	11-15 miles
4+ Times/week	32%	8%	23%
1-2 times/week	36%	31%	35%
Once/week or less	14%	27%	23%
Few times/month	17%	34%	19%

When we examine the effect distance has on the frequency of cycling as a method of transportation, we see the relationship is much more defined than walking, making it very clear that bikers who live closer to the city epicenter are much more likely to use their bicycle as transportation four or more times a week compared to those who live further away. Some 48% of cyclists who live within 5 miles of Downtown Louisville are using their bike this often. However, the percentages of bikers who live further away that still use their bikes a couple times per week are not inconsequential at 33% and 38% for those who live 6-10 and 11-15 miles away from downtown, respectively.

Bikers			
	Distance from Downtown		
Frequency	1-5 miles	6-10 mi	11-15 mi
4+ times/week	48%	21%	10%
1 or 2 times/week	18%	33%	38%
Once/week or less	9%	15%	19%
Few times/month	24%	31%	33%

Finally, looking at the effects of distance on the frequency of TARC usage, we see that even though recent TARC usage is decreasing in the workers as they live further away from downtown, those who have ridden TARC recently continue to ride TARC with almost the same frequency without regard to distance from downtown. The workers who live within 10 miles of downtown indicate statistically similar riding frequencies, and as we move further away from downtown we see riding frequencies actually increase by a slight percentage.

Recent TARC			
	Distance from Downtown		
Frequency	1-5 miles	6-10 mi	11-15 mi
Daily/Several Times a week	47%	46%	53%
Several times/month	12%	12%	3%
A Few times/month	12%	14%	3%
A few times/year	26%	23%	27%
specific events	2%	5%	13%

Appendix

Instrument

Louisville Metro Government would like to have your thoughts on important transportation issues in the city. The following questions are designed to help us understand your thoughts and opinions about how easy it is to get around in Louisville when you are not in a car.

The information collected from the following survey will be used to benchmark our city's progress in these crucial areas and also give us guidance as we set priorities for the future. This survey takes approximately 10 minutes to complete and your individual responses will not be identified.

These first few questions specifically focus on which mode of transportation you use for different types of trips.

1. Thinking about your trip into work today which mode of transportation did you use?
   - ❍ Drove alone
   - ❍ Rode with family/friends
   - ❍ TARC
   - ❍ Vanpool
   - ❍ Bicycle
   - ❍ Walked
   - ❍ Taxi
   - ❍ Work from home/telecommute

2. Thinking about you're your typical trip into work when the weather is nice, which mode of transportation do you use?
   - ❍ Drove alone *(If yes, go to Q3, if not go to Q4)*
   - ❍ Rode with family/friends
   - ❍ TARC
   - ❍ Vanpool
   - ❍ Bicycle
   - ❍ Walked
   - ❍ Taxi
   - ❍ Work from home/telecommute

3. How much do you personally pay (not including employer paid parking) for parking at work per month?
   $_____

4. Thinking about your primary mode of transportation for the following trips, please indicate which modes of transportation you normally use for each. (please indicate one mode for each trip

	Drive Alone	Ride with Family/ Friends	TARC	Vanpool	Bicycle	Walked	Taxi
Medical Appointment	❍	❍	❍	❍	❍	❍	❍
School	❍	❍	❍	❍	❍	❍	❍
Social/Recreational	❍	❍	❍	❍	❍	❍	❍
Running Errands	❍	❍	❍	❍	❍	❍	❍

5. Does your primary mode of transportation change based on the weather?
   - ❍ Yes
   - ❍ No

TARC

These next few questions focus on Public Transportation in Louisville. You do not have to have ridden TARC to answer these questions.

6. Have you ever ridden a TARC bus before?
   - ❒ Yes
   - ❒ No

If yes…

7. When was the last time you rode a TARC bus?
   - ❒ Within the last 6 months (1)
   - ❒ Between 6 and 12 months ago (2)
   - ❒ Between 1 and 5 years ago (3)
   - ❒ More than 5 years ago (4)

If Q7 is 2, 3, or 4 above...

8. When you rode TARC before, how frequently did you use the service?
   - ❒ Daily or several times per week
   - ❒ Several times per month, but not every week
   - ❒ A few times a month
   - ❒ A few times a year
   - ❒ I only rode TARC for specific events

If Q7 1 then…

9. How often do you normally ride TARC?
   - ❍ Everyday
   - ❍ Every weekday
   - ❍ Every weekend
   - ❍ Several times a week, but not everyday
   - ❍ Several times a month, but not every week
   - ❍ A few times a month
   - ❍ A few times a year

10. What benefits of riding TARC do you most value? (check all that apply)
    - ❒ Public transportation helps the environment
    - ❒ I can use my travel time as leisure time
    - ❒ I can use my travel time as work time
    - ❒ Travel time is less stressful
    - ❒ TARC is less expensive than driving a car
    - ❒ TARC is more convenient than driving a car
    - ❒ My employer subsidizes my TARC fare
    - ❒ Other (specify) _____

If Q6 no or Q7 is 2,3, or 4…

11. What keeps you from riding TARC or riding TARC more often? (please check all that apply)
    - ❒ Don't know if service is available
    - ❒ The fare is too expensive
    - ❒ I have limited mobility/hard for me to use the bus
    - ❒ Work requires me to have a car
    - ❒ Need my car before/after work/school
    - ❒ Need my car for emergencies/overtime
    - ❒ No service near my home/work/school
    - ❒ Busses/vans are unreliable/late
    - ❒ The hours of operation are too limited
    - ❒ Have to wait too long for the bus/van
    - ❒ No direct route/need to make bus transfers
    - ❒ Trip is too long/takes too much time
    - ❒ Loss of personal space
    - ❒ Unclean busses
    - ❒ I don't feel safe
    - ❒ Other (specify) _____

12. Which of the following items do you believe would encourage you to personally ride TARC? (please choose your top 3)
    - ❒ Your company provided discount passes or free passes for TARC
    - ❒ TARC passes were sold at your place of employment
    - ❒ Guaranteed ride home in case of emergency
    - ❒ Shorter commute time and direct service to downtown
    - ❒ Other (specify) _____
    - ❒ I do not wish to use TARC
    - ❒ Using transit is not an option for me due to where I live

Join all…

13. Please indicate the service improvements you think are most important to improve public transportation in Louisville. (please check your top 3)
    - ❒ Service later in the evenings
    - ❒ Service earlier in the mornings
    - ❒ Coordinated timed transfers between busses
    - ❒ Improved trip reservation process
    - ❒ Faster, more direct routing between origin and destination
    - ❒ Improved on-time performance
    - ❒ Weekend service
    - ❒ Bus shelter and benches at stops
    - ❒ Improved access to transit information
    - ❒ Cleaner busses
    - ❒ Improved access to bus stops
    - ❒ Wi-Fi

14. What else needs to be done to encourage more people to ride TARC in Louisville?

    _____

    _____

    _____

15. Generally speaking, how strongly do you agree with the statement; public transportation is important to Louisville's future.
    - ❍ 1 – Do not agree at all
    - ❍ 2
    - ❍ 3
    - ❍ 4
    - ❍ 5 – Completely agree

16. Generally speaking, how strongly do you agree with the statement; Louisville is headed in the right direction in creating an effective public transportation system.
    - ❍ 1 – Do not agree at all
    - ❍ 2
    - ❍ 3
    - ❍ 4
    - ❍ 5 – Completely agree

Bicycle

17. Do you currently own or have access to a working bicycle?
    - ❍ Yes
    - ❍ No

If Q17 yes then…

18. When the weather is nice, how often do you use a bicycle for all trips combined, including work?
    - ❍ Four or more times per week

- ❍ One or two times per week
- ❍ Once a week or less
- ❍ A few times per month
- ❍ Once a month or less

19. Even if you had to go a little out of your way, are there contiguous bike lanes or roads where it is safe to ride between your house and where you work?
    - ❍ Yes
    - ❍ No
    - ❍ Not sure

20. What benefits of riding a bicycle do you most value? (check all that apply)
    - ❒ Bicycling is good for my health
    - ❒ I enjoy meeting new people while riding
    - ❒ Bicycling helps the environment
    - ❒ I can use my travel time as leisure time
    - ❒ I can use my travel time as exercise time
    - ❒ Travel time is less stressful
    - ❒ Finding a parking spot is a lot faster with a bike
    - ❒ The federal government has a $20 per month tax-free reimbursement for bike-related expenses program
    - ❒ Bicycling is less expensive than driving a car
    - ❒ Bicycling is more convenient than owning a car

If Q17 no…

21. What are the reasons that keep you from owning a bicycle? (check all that apply)
    - ❒ The weather
    - ❒ I don't know how to ride a bicycle
    - ❒ I don't feel comfortable riding a bicycle in traffic
    - ❒ Motorists often do not share the road safely
    - ❒ I have limited mobility/hard for me to use a bicycle
    - ❒ Work requires me to have a car
    - ❒ Need car before/after work/school
    - ❒ Need my car for emergencies/overtime
    - ❒ Trip is too long/takes too much time
    - ❒ No safe bicycle parking once I reach/home/work/school/shops
    - ❒ Difficult to carry items while on a bicycle
    - ❒ Lack of shower facilities
    - ❒ Need to have a separate change of clothes for work
    - ❒ Other (specify) _____

Join all bicycling…

22. Please indicate what improvements you think are most important to encourage Louisvillians to ride their bicycles more often. (please check your top 3)
    - ❒ More concerted effort to get the "Share the Road" message out to motor vehicle operators
    - ❒ Standard 6 foot bike lanes
    - ❒ Colored pavement markings to designate bike lanes (green painted bike lanes)
    - ❒ Separated bicycle lanes
    - ❒ Off road shared use paths (Louisville Loop)
    - ❒ Bicycle network which connects to more destinations
    - ❒ Slower speed limits along popular bicycling routes.
    - ❒ Dedicated bicycle parking spaces at shops and offices
    - ❒ Shower facility
    - ❒ Bicycle sharing program with stations across the downtown area
    - ❒ Other (specify)_____

23. What else needs to be done to encourage more people to ride their bikes in Louisville?

    _____

    _____

    _____

24. Generally speaking, how safe do you believe cycling is here in Louisville?
    - ❍ 1 – Not at all safe
    - ❍ 2
    - ❍ 3
    - ❍ 4
    - ❍ 5 –Completely safe

25. Generally speaking, how strongly do you agree with the statement; Louisville is headed in the right direction in becoming a bicycle friendly community?
    - ❍ 1 – Do not agree at all
    - ❍ 2
    - ❍ 3
    - ❍ 4
    - ❍ 5 – Completely agree

Walking

26. How often do you walk to work/school or for shopping/errands?
    - ❍ Four or more times per week
    - ❍ One or two times per week
    - ❍ Once a week or less
    - ❍ A few times per month
    - ❍ Once a month or less
    - ❍ I drive or take other means of transportation to get to these places

If walk some then…

27. What benefits of walking do you most value? (please check all that apply)
    - ❒ Walking is good for my health
    - ❒ Walking helps the environment
    - ❒ I can use my travel time as leisure time
    - ❒ I can use my travel time as exercise time
    - ❒ Travel time is less stressful
    - ❒ Finding a parking spot is not a concern
    - ❒ More people walking makes it safer for all walkers
    - ❒ Walking is less expensive than owning a car
    - ❒ Walking is more convenient than owning a car
    - ❒ I enjoy exploring new places
    - ❒ Other (specify) _____

28. Even if you had to go a little out of your way, are there contiguous sidewalks or roads where it is safe to walk between your house and where you work?
    - ❍ Yes
    - ❍ No
    - ❍ Not sure

If do not walk then…

29. What are the reasons you do not currently walk as your primary mode of transportation? (check all that apply)
    - ❒ The weather
    - ❒ I don't feel comfortable walking for long distances
    - ❒ Motorists often do not share the road safely
    - ❒ Work requires me to have a car
    - ❒ Need my car before/after work/school
    - ❒ Need my car for emergencies/overtime
    - ❒ Trip is too long/takes too much time
    - ❒ Difficult to carry items while walking
    - ❒ Lack of shower facilities
    - ❒ Need to have a separate change of clothes for work

Join all walking…

30. Please indicate what improvements you think are most important to encourage Louisvillians to walk more often. (please check your top 3)
    - ❒ More concerted effort to get the "Share the Road" message out to motor vehicle operators
    - ❒ Sidewalks which are comfortable to walk along
    - ❒ Sidewalks that are in good shape
    - ❒ Shorter crossing distances across intersections
    - ❒ Raised sidewalks
    - ❒ Pedestrian signals at intersections
    - ❒ Curb ramps which meet the Americans with Disability Act requirements
    - ❒ Off road shared use paths (Louisville Loop)
    - ❒ A sidewalk network which connects more destinations
    - ❒ Slower speed limits along popular pedestrian routes.
    - ❒ More tree canopies and benches
    - ❒ Rewards from work for healthy living (i.e. pedometers, discounts)
    - ❒ Other (specify)_____

31. What else needs to be done to encourage more people to walk as a means of transportation in Louisville?

32. Generally speaking, how safe do you believe walking is here in Louisville?
    - ❍ 1 – Not at all safe
    - ❍ 2
    - ❍ 3
    - ❍ 4
    - ❍ 5 –Completely safe

33. Generally speaking, how strongly do you agree with the statement; Louisville is headed in the right direction in becoming a pedestrian friendly community?
    - ❍ 1 – Do not agree at all
    - ❍ 2
    - ❍ 3
    - ❍ 4
    - ❍ 5 – Completely agree

Demographics

These last few questions are for statistical purposes only.

34. Which of the following best describes you?
    - ❒ I consider myself to be a very physically active person
    - ❒ I consider myself to be a somewhat physically active person
    - ❒ I consider myself to be physically active sometimes
    - ❒ I do not consider myself to be a physically active person

35. What is your gender?
    - ❒ Male
    - ❒ Female
    - ❒ Prefer not to answer

36. What is your current age?
    - ❍ 18 to 24
    - ❍ 25 to 34
    - ❍ 35 to 44
    - ❍ 45 to 54
    - ❍ 55 to 64
    - ❍ 65 years or older

37. With which race do you most closely identify?
    - ❒ American Indian/Alaskan Native
    - ❒ Asian
    - ❒ Black or African American

- ❒ Caucasian
- ❒ Hispanic/Latino
- ❒ Native Hawaiian/Other Pacific Islander
- ❒ Other _____

38. What is your marital status?
    - ❒ Married/Partnered
    - ❒ Single

39. Do you have children under the age of 18 living with you?
    - ❒ Yes
    - ❒ No

40. What is your approximate annual household income?
    - ❒ Less than $25,000
    - ❒ $25,000 to less than $35,000
    - ❒ $35,001 to less than $50,000
    - ❒ $50,001 to less than $75,000
    - ❒ More than $75,000

41. What is your current employment status? (please check all that apply)
    - ❒ Employed, full time
    - ❒ Employed, part time
    - ❒ Student
    - ❒ Retired
    - ❒ Homemaker

42. What is your typical work schedule?
    - ❒ 8/9 AM to 5 PM
    - ❒ 3 PM to 11 PM
    - ❒ 11 PM to 7/8 AM

43. Approximately how many miles do you have to commute to work, one way?
    - ❍ I do not have to commute to go to work
    - ❍ 1 to 5 miles
    - ❍ 6 to 10 miles
    - ❍ 11 to 15 miles
    - ❍ 16 to 20 miles
    - ❍ 21 to 25 miles
    - ❍ 26 or more miles

44. What is your residential Zip Code?
    _____

45. What is the name of your employer?
    _____

46. What is the address of your employer?
    _____